

CONTAINS NO COMB No. 2010-0019
Approval Expires 12-31-89

₽ EPA-OTS

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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Comprehensive Assessment Information Rule

REPORTING FORM

When completed, send this form to:

Document Processing Center Office of Toxic Substances, TS-790 U.S. Environmental Protection Agency 401 M Street, SW Washington, DC 20460 Attention: CAIR Reporting Office For Agency Use Only:

Date of Receipt: \_\_\_\_\_

Document

Control Number:

Docket Number:

EPA Form 7710-52

PART	A (	GENERAL REPORTING INFORMATION
1.01	Th	is Comprehensive Assessment Information Rule (CAIR) Reporting Form has been
CBI	cor	npleted in response to the <u>Federal Register</u> Notice of $[ \overline{0} ] \overline{8} ] [ \overline{0} ] \overline{1} ] [ \overline{8} ] \overline{9} ]$
[_]	a.	If a Chemical Abstracts Service Number (CAS No.) is provided in the Federal
		Register, list the CAS No
	b.	If a chemical substance CAS No. is not provided in the <u>Federal Register</u> , list either (i) the chemical name, (ii) the mixture name, or (iii) the trade name of the chemical substance as provided in the <u>Federal Register</u> .
		(i) Chemical name as listed in the rule Not Applicable (NA)
		(ii) Name of mixture as listed in the rule NA
		(iii) Trade name as listed in the rule EN9OZR Part A/EN9 Part A
	c.	If a chemical category is provided in the <u>Federal Register</u> , report the name of the category as listed in the rule, the chemical substance CAS No. you are reporting on which falls under the listed category, and the chemical name of the substance you are reporting on which falls under the listed category.
		Name of category as listed in the rule NA
		CAS No. of chemical substance $\dots [0]0]0]0]5]8]4]-[8]4]-[9]$
		Name of chemical substanceBenzene, 2, 4-diisocyanato-1-methyl- (2, 4-Toluene diisocyanate)
1.02 CBI		ntify your reporting status under CAIR by circling the appropriate response(s).
		ufacturer
[_]		orter 2
	_	cessor 3
	X/P	manufacturer reporting for customer who is a processor 4
	X/P	processor reporting for customer who is a processor 5
] M	lark	(X) this box if you attach a continuation sheet.

1.03	Does the substance you are reporting on have an "x/p" designation associated with it in the above-listed Federal Register Notice?					
CBI	Yes	$[\overline{X}]$ Go to question 1.04				
[_]	No	[] Go to question 1.05				
1.04 <u>CBI</u>	Yes	the listed substance and distribute it hat listed in the <u>Federal Register Notice?</u>				
	b. Check the appropriate box below:	2				
	[ ] You have chosen to notify your c	ustomers of their reporting obligations				
	Provide the trade name(s)					
		NA				
	[_] You have chosen to report for you	ur customers				
	You have submitted the trade name date of the rule in the Federal leaders.	e(s) to EPA one day after the effective Register Notice under which you are				
1.05	If you buy a trade name product and are reporting requirements by your trade name s	porting because you were notified of your supplier, provide that trade name.				
CBI	Trade name EN9 Part A/E	N9OZR Part A (Federal Register)				
[_]	Is the trade name product a mixture? Circ.	le the appropriate response.				
	Yes					
	No					
1.06 CBI	Certification The person who is responsi sign the certification statement below:	ble for the completion of this form must				
<u>CBI</u> [_]	"I hereby certify that, to the best of my kentered on this form is complete and accura	nowledge and belief, all information te."				
	James L. Hayes	Junes 2/ Jayes 9/18/89				
	Safety and Security Engineer (703)	639 _ 9045				
	TITLE (	TELEPHONE NO.				
[ <u>X</u> ] M	Mark (X) this box if you attach a continuati	on sheet.				

1.07 <u>CBI</u>	Exemptions From Reporting If you have provided EPA or another Federal agency with the required information on a CAIR Reporting Form for the listed substance within the past 3 years, and this information is current, accurate, and complete for the time period specified in the rule, then sign the certification below. You are required to complete section 1 of this CAIR form and provide any information now required but not previously submitted. Provide a copy of any previous submissions along with your Section 1 submission.					
	"I hereby certify that information which I had to EPA within the past period specified in the	ive not include : 3 years and i	d in this	CAIR Reporting F	orm has been submitted	
	Not Applicable (NA) NAME			NA SIGNATURE	NA DATE SIGNED	
	NA TITLE	(	TEL	NA- EPHONE NO.	DATE OF PREVIOUS SUBMISSION	
<u>CBI</u> [_]	"My company has taken and it will continue to been, reasonably ascer using legitimate means a judicial or quasi-juinformation is not pub would cause substantia	claims which y measures to pr o take these m tainable by ot (other than d dicial proceed licly availabl	ou have as otect the easures; t her person iscovery b ing) witho e elsewher	serted.  confidentiality he information i s (other than go ased on a showin ut my company's e; and disclosur	of the information, s not, and has not vernment bodies) by g of special need in consent; the e of the information	
	. NA			NA	. NA	
	NAME			SIGNATURE	DATE SIGNED	
	NA TITLE	(_	)	NA - LEPHONE NO.	<del></del>	
[ <u></u> ] H	Mark (X) this box if yo	u attach a con	tinuation	sheet.		

PART	B CORPORATE DATA
1.09	Facility Identification
<u>CBI</u>	Name [ ] N ] L ] A ] N ] D ] JM ] O ] T ] O ] R ] _ ] D ] [ ] V ] [ ] S ] T ] O ] N ] _ ] O ] F ] _ ] K  Address [ 5 ] O ] 1 ] _ ] F ] [ ] R   S   T   _ ] S   T   R   E   E   T   _ ] _ ] _ ] _ ] _ ] _ ] _ ] _ ] _ ]
	(R)AJDIFJOIRIDI_J_I_J_J_I_J_J_J_J_J_J_J_J_J_J_J_J_J_
	$\begin{bmatrix} \overline{V} \end{bmatrix} \overline{A} \end{bmatrix}$ $\begin{bmatrix} \overline{2} \end{bmatrix} \overline{4} \end{bmatrix} \overline{1} \end{bmatrix} \overline{4} \end{bmatrix} \overline{1} \end{bmatrix} - \{ \overline{1} \end{bmatrix} \overline{4} \end{bmatrix} \overline{2} \end{bmatrix} \overline{7} \end{bmatrix}$ State
	Dun & Bradstreet Number $\dots [\overline{0}] \overline{0} - [\overline{3}] \overline{1} \overline{3} - [\overline{0}] \overline{5} \overline{3} \overline{1} \overline{1}$
	EPA ID Number $[\underline{\nabla}[\underline{A}]\underline{D}[\underline{0}]\underline{0}]\underline{0}]\underline{0}]\underline{0}]\underline{1}]\underline{9}]\underline{3}]\underline{6}]\underline{4}]$
	Employer ID Number
	Primary Standard Industrial Classification (SIC) Code $\dots [3] \overline{3} \overline{6} \overline{2} \overline{1}$
	Other SIC Code Not Applicable (NA)
	Other SIC Code
1.10	Company Headquarters Identification NA
CBI	Name []]]]]]]]]]]]]]]]]]]]]]]]
[_]	Address [_]_]_]_]_]_]_]_]_]_]_]_]_]_]_]_]_]_]_]
	(_]_]_]_]_]_]_]_]_]_]_]_]_]_]_]_]_]_]_]
	[_]_] [_]]]][]]]]]]]]
	Dun & Bradstreet Number
	Employer ID Number
	Mark (X) this box if you attach a continuation sheet.

1.11	Parent Company Identification
<u>CBI</u>	Name [K]O]L]L]M]O]R]C]E]N]_]C]O]R]P]O]R]A]T]L]O]N]_]_]Address []]O]_]M]T]L]L]_]P]O]N]D]_]L]A]N]E]_]_]_]_]_]_]_]_]_]_]_]_]_]C]O]R]P]O]R]A]T]L]D]N]D][]C]Tolors
	Dun & Bradstreet Number $\dots [\overline{0}]\overline{0} - [\overline{1}]\overline{1}]\overline{1} - [\overline{7}]\overline{2}\overline{9}\overline{9}$
1.12 CBI	Technical Contact  Name [C] L Y D E
[_]	Title [M]A]T]E]R]T]A]L]S] ]A]N]D] ]P]R]O]C]E]S]S] ]E]N]G] Address [5]0]1] ]F][]R]S]T] ]S]T]R]E]E]T] ] ] ] ] ] ] ] ] ] ] ] ] ] ] ] ]
	$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$
	Telephone Number $[7]0]3]-[6]3]9]-[9]0]4]5$
1.13	This reporting year is from $[0]1$ $[8]8$ to $[1]2$ $[8]8$ Mo. Year
	Mark (X) this box if you attach a continuation sheet.

Classification	uantity (kg/y
Manufactured	(NA)
Imported	
Processed (include quantity repackaged)	
Of that quantity manufactured or imported, report that quantity:	
In storage at the beginning of the reporting year	NA
For on-site use or processing	
For direct commercial distribution (including export)	
In storage at the end of the reporting year	
Of that quantity processed, report that quantity:	
In storage at the beginning of the reporting yearestimate	- 0.302 kg
Processed as a reactant (chemical producer)	
Processed as a formulation component (mixture producer)	
Processed as an article component (article producer)	
Repackaged (including export)	
In storage at the end of the reporting yearestimate.	

or a chemi	Mixture If the listed substance on which you are required to report is a mixture or a component of a mixture, provide the following information for each component chemical. (If the mixture composition is variable, report an average percentage of each component chemical for all formulations.)					
	Component Name	Supplier Name	Compositio (specify	age % n by Weigh precision, 5% ± 0.5%)		
Tolu	ene 2,4 Diisocyanate	UK	less than	15%		
Poly	urethane Prepolymer	UK	balance			
			Total	100%		
			,			

2.04	State the quantity of the listed substance that your facility manufor processed during the 3 corporate fiscal years preceding the repodescending order.	factured, in orting year	mported in
CBI			
[_]	Year ending	$ \cdot \cdot \cdot [ \overline{1} ] \overline{2} ] $ Mo.	[ <u>8</u> ] <u>7</u> Year
	Quantity manufactured	(NA)	k
	Quantity imported	NA	k
	Quantity processed	0.458	k
	Year ending	$\cdots \left[\frac{1}{1}\right]\frac{2}{Mo}$	[ <u>8</u> ] <u>6</u> ]
•	Quantity manufactured	NA	kg
	Quantity imported	NA	ke
	Quantity processed	0	kg
	Year ending	$\cdots \begin{bmatrix} \boxed{1} \end{bmatrix} \boxed{\frac{2}{Mo}}$	[ <u>8</u> ] <u>5</u> ]
	Quantity manufactured	NA	kg
	Quantity imported	NA	kg
	Quantity processed	0	kg
2.05 CBI	Specify the manner in which you manufactured the listed substance. appropriate process types.	Circle all	•
[_]	Continuous processNA		1
	Semicontinuous process NA		
	Batch processNA		
<u></u> 1	Mark (X) this box if you attach a continuation sheet.	10 - 20 - 10 - 10 - 10 - 10 - 10 - 10 -	

2.06 CBI	Specify the manner in appropriate process ty		the listed substance.	Circle all			
[_]	Continuous process 1						
	Semicontinuous process	5	•••••	• • • • • • • • • • • • •	2		
(	Batch process		•••••	•••••	3		
2.07 CBI	State your facility's substance. (If you arquestion.)	name-plate capacity free a batch manufacture	or manufacturing or per or batch processor,	rocessing the	listed r this		
[_]	Manufacturing capacity	,	łot Applicable (NA).	NA	<b>kg</b> /yr		
	Processing capacity .		·····_	NA	<b>kg</b> /yr		
2.08 CBI	If you intend to incremanufactured, imported year, estimate the incovolume.	l, or processed at any	time after your curr	ent corporate	fiscal		
[_]		Manufacturing Quantity (kg)	Importing Quantity (kg)	Process Quantity	_		
	Amount of increase	NA	NA	1.755 kg	/yr.		
	Amount of decrease	NA	NA	NA			
<del></del>							
[_]	Mark (X) this box if y	ou attach a continuat	ion sheet.				

2.09	listed substance substance during	Largest volume manufacturing or processing proce ee, specify the number of days you manufactured ng the reporting year. Also specify the average is type was operated. (If only one or two opera	or processed	the listed
<u>CBI</u>			Days/Year	Average Hours/Day
	Process Type #1	(The process type involving the largest quantity of the listed substance.)		
		Manufactured Not Applicable (NA)	<u>NA</u>	NA
		Processed	20-25	2550
	Process Type #2	(The process type involving the 2nd largest quantity of the listed substance.)		
		Manufactured	NA	NA
		Processed	NA	NA
•	Process Type #3	(The process type involving the 3rd largest quantity of the listed substance.)		
		Manufactured	NA	NA
		Processed	_NA	NA
2 10 <u>CBI</u> [_]	chemical.  Maximum daily in	am daily inventory and average monthly inventory was stored on-site during the reporting year in NA [Not required to respond to this question.]  aventory	the form of	ted a bulk  kg
[_]	Mark (X) this bo	x if you attach a continuation sheet.		

_	CAS No.	Chemical Name	Byproduct, Coproduct or Impurity <sup>1</sup>	Concentration (%) (specify ± % precision)	Source of By products, Co products, or Impurities
ot Ap	oplicable (NA) NA	NA	NA	NA NA	NA
	NA	NA	NA	NA	NA .
	NA	NA	NA	NA	_NA
	NA	NA	NA	NA	NA
	NA	NA	NA	NA	NA
	NA	NA	NA	NA	<u>N</u> A
	<sup>1</sup> Use the follow  B = Byproduct C = Coproduct I = Impurity	ving codes to designa	te byproduct, copro	duct, or impurity	y:

(_1	listed under column b., the instructions for fu	rther explanation a	and an example.)	duct type. (Refer to
	Product Types <sup>1</sup>	% of Quantity Manufactured, Imported, or Processed	% of Quantity Used Captively On-Site	Type of End-Users <sup>2</sup>
	X	100%	100%	I
	Not Applicable (NA)	NA	NA	NA
	NA	NA	_NA	NA
	NA	NA	NA	NA
	NA	NA	NA	NA
	NA	NA	NA	NA
	<pre>B = Synthetic reactant C = Catalyst/Initiator     Sensitizer D = Inhibitor/Stabiliz     Antioxidant E = Analytical reagent F = Chelator/Coagulant G = Cleanser/Detergent H = Lubricant/Friction     agent I = Surfactant/Emulsif J = Flame retardant K = Coating/Binder/Adhe</pre>	/Accelerator/ er/Scavenger/ /Sequestrant /Degreaser modifier/Antiwear ier	<pre>0 = Photographic/Rep     and additives P = Electrodepositio Q = Fuel and fuel ad R = Explosive chemic S = Fragrance/Flavor T = Pollution contro U = Functional fluid V = Metal alloy and W = Rheological modi</pre>	n/Plating chemicals ditives als and additives chemicals l chemicals s and additives additives fier
	<sup>2</sup> Use the following code:	s to designate the	type of end-users:	
	I = Industrial CM = Commercial	CS = Cons H = Othe	umer r (specify)	

2.13 <u>CBI</u> [_]	<pre>import, or process us corporate fiscal year import, or process fo</pre>	ing the listed substa . For each use, spec r each use as a perce the reporting year. e as a percentage of r each product type.	ince ify entag Als the	at any time after the quantity you ge of the total vo so list the quanti value listed unde	your current expect to manufacture plume of listed ty of listed substance er column b., and the
	a.	<b>b.</b>		с.	d. '
	Product Types <sup>1</sup>	% of Quantity Manufactured, Imported, or Processed	_	% of Quantity Used Captively On-Site	Type of End-Users <sup>2</sup>
	X	329% per year		329% per year	
		(1990 thru 1995)	_	(1990 thru 1995)	
			_		
	<u> </u>				
	<sup>1</sup> Use the following coo	des to designate prod			
	A = Solvent B = Synthetic reactar	nt		= Moldable/Castabl = Plasticizer	.e/Rubber and additives
	C = Catalyst/Initiate		N :	<pre>Dye/Pigment/Colo</pre>	rant/Ink and additive:
-	Sensitizer		0 =		rographic chemical
	D = Inhibitor/Stabil: Antioxidant	izer/Scavenger/	р.	and additives - Electrodeposition	n/Plating chemicals
	E = Analytical reager	nt		Fuel and fuel ad	
	F = Chelator/Coagular	nt/Sequestrant			als and additives
	G = Cleanser/Deterger			<pre>Fragrance/Flavor</pre>	
	H = Lubricant/Friction	on modifier/Antiwear			
	<pre>agent I = Surfactant/Emuls:</pre>	lfior		<ul><li>Functional fluid</li><li>Metal alloy and</li></ul>	
	J = Flame retardant	11161		Rheological modi	
		dhesive and additives	X =	ther (specify)	Electrical Connector
	<sup>2</sup> Use the following coo	des to designate the	type	e of end-users:	
	I = Industrial	CS = Cons	umei	•	
	CM = Commercial	H = Othe	r (s	specify)	

Average % Composition of Final Product's Physical Form in Final Prod ct  X F4 0% I  Not Applicable (NA) NA NA NA  NA NA NA NA  NA NA NA NA  NA NA NA NA  NA NA NA  NA NA NA  NA NA NA  NA NA NA  NA NA NA  NA NA NA  NA NA  NA NA NA  NA	•	b.	c.	d.
Final Product's Physical Form I Final Product Substance In Final Product I Final Product End-Users  X F4 0% I  Not Applicable (NA) NA NA NA NA NA  NA NA NA NA NA NA NA NA NA NA NA NA NA N				
Not Applicable (NA) NA	•	Final Product's		Type of
Not Applicable (NA)  NA  NA  NA  NA  NA  NA  NA  NA  NA	Product Type	Physical Form <sup>2</sup>	in Final Product	End-Users
NA NA NA NA NA NA  NA NA NA NA NA  NA NA NA NA  NA NA NA  NA NA NA  NA NA  NA NA  NA NA  NA NA  NA NA  NA NA  NA NA  NA NA  NA	X	F4	0%	1
NA NA NA NA NA NA  NA NA NA NA NA  NA NA NA NA  NA NA NA  NA NA NA  NA NA  NA NA  NA NA  NA NA  NA NA  NA NA  NA NA  NA	Not Applicable (NA)	NA NA	NA	NA
NA NA NA NA NA    NA NA NA NA NA NA NA NA NA NA NA NA NA	NA	NA	NA	NA
L = Moldable/Castable/Rubber and add B = Synthetic reactant	NA	NA NA	NA	NA
A = Solvent B = Synthetic reactant C = Catalyst/Initiator/Accelerator/ Sensitizer D = Inhibitor/Stabilizer/Scavenger/ Antioxidant E = Analytical reagent F = Chelator/Coagulant/Sequestrant G = Cleanser/Detergent/Degreaser H = Lubricant/Friction modifier/Antiwear I = Surfactant/Emulsifier V = Metal alloy and additives J = Flame retardant V = Rheological modifier V = Metal alloy and additives V = Metal alloy and additives V = Rheological modifier V = Rheological modifier V = Rheological modifier V = Rheological modifier V = Gas J = Coating/Binder/Addhesive and additives V = Gas J = Crystalline solid D = Paste G = Gel E = Slurry H = Other (specify) J = Powder  U = Industrial C = Consumer	NA	NA	NA	NA
B = Synthetic reactant C = Catalyst/Initiator/Accelerator/ Sensitizer D = Inhibitor/Stabilizer/Scavenger/ Antioxidant E = Analytical reagent G = Cleanser/Detergent/Degreaser H = Lubricant/Friction modifier/Antiwear I = Surfactant/Emulsifier J = Flame retardant K = Coating/Binder/Adhesive and additives X = Gas B = Liquid B = Liquid C = Aqueous solution D = Paste E = Slurry F = Other solid D = Paste E = Slurry F = Other solid D = Paste E = Slurry F = Other solid D = Powder  M = Plasticizer N = Dye/Pigment/Colorant/Ink and additives nand additives O = Photographic/Reprographic chemic and additives A = Electrodeposition/Plating chemic and additives F = Electrodeposition/Plating and additive F = Pollution control chemicals and additives F = Electrodeposition/Plating	<sup>1</sup> Use the following co	des to designate pro	oduct types:	
C = Catalyst/Initiator/Accelerator/ Sensitizer  D = Inhibitor/Stabilizer/Scavenger/ Antioxidant  E = Analytical reagent G = Chelator/Coagulant/Sequestrant G = Chelator/Coagulant/Sequestrant G = Cleanser/Detergent/Degreaser H = Lubricant/Friction modifier/Antiwear I = Surfactant/Emulsifier J = Flame retardant K = Coating/Binder/Adhesive and additives  X = Other (specify) Electrical Connection  Use the following codes to designate the final product's physical form:  A = Gas F = Crystalline solid B = Liquid F = Other (specify) F = Other (specify) F = Powder  Use the following codes to designate the type of end-users:  I = Industrial  C = Catalyst/Initiator/Accelerator/ O = Photographic/Reprographic chemic and additives and additives  P = Electrodeposition/Plating chemic and additives  P = Electrodeposition/Plating chemic and additives  R = Explosive chemicals and additives  S = Fragrance/Flavor chemicals  F = Pollution control chemicals  U = Functional fluids and additives V = Metal alloy and inditives V = Metal a			L = Moldable/Castable/	Rubber and add:
Sensitizer  D = Inhibitor/Stabilizer/Scavenger/ Antioxidant  E = Analytical reagent F = Chelator/Coagulant/Sequestrant G = Cleanser/Detergent/Degreaser H = Lubricant/Friction modifier/Antiwear I = Surfactant/Emulsifier J = Flame retardant K = Coating/Binder/Adhesive and additives  W = Rheological modifier  V = Metal alloy and additives W = Rheological modifier W = Rheological modifier  V = Metal alloy and additives W = Rheological modifier W = Rheological modifier  E = Cas				
D = Inhibitor/Stabilizer/Scavenger/ Antioxidant  E = Analytical reagent  F = Chelator/Coagulant/Sequestrant  G = Cleanser/Detergent/Degreaser  H = Lubricant/Friction modifier/Antiwear  agent  I = Surfactant/Emulsifier  J = Flame retardant  K = Coating/Binder/Adhesive and additives  X = Gas  B = Liquid  C = Aqueous solution  D = Paste  E = Slurry  F = Other (specify)  F = Flame retardant  A = Gas  B = Liquid  C = Aqueous solution  F = Other solid  D = Paste  G = Gel  E = Slurry  H = Other (specify)  F = Powder   J Use the following codes to designate the type of end-users:  I = Industrial  C = Consumer		or/Accelerator/		
Antioxidant  E = Analytical reagent  C = Chelator/Coagulant/Sequestrant  G = Cleanser/Detergent/Degreaser  H = Lubricant/Friction modifier/Antiwear  I = Surfactant/Emulsifier  J = Flame retardant  K = Coating/Binder/Adhesive and additives  V = Metal alloy and additives  V = Rheological modifier  K = Coating/Binder/Adhesive and additives  V = Other (specify) Electrical Connect  Use the following codes to designate the final product's physical form:  A = Gas  F2 = Crystalline solid  B = Liquid  C = Aqueous solution  D = Paste  G = Gel  E = Slurry  F1 = Powder  P = Electrodeposition/Plating chemic  R = Explosive chemicals and additives  S = Fragrance/Flavor chemicals  V = Metal alloy and additives  V = Metal alloy and additives  V = Rheological modifier  V = Consumer  P = Electrodeposition/Plating chemicals  R = Explosive chemicals and additives  S = Fragrance/Flavor chemicals  A = Explosive chemicals and additives  V = Metal alloy and additives  V = Metal alloy and additives  V = Rheological modifier  F1 = Consumer  P = Electrodeposition/Plating chemicals  R = Explosive chemicals  A = Explosive chemicals  A = Column				ographic chemica
E = Analytical reagent F = Chelator/Coagulant/Sequestrant C = Cleanser/Detergent/Degreaser C = Fragrance/Flavor chemicals C = Fructional fluids and additives C = Fructional fluids and a		.izer/Scavenger/		(Dlosion showing
F = Chelator/Coagulant/Sequestrant G = Cleanser/Detergent/Degreaser H = Lubricant/Friction modifier/Antiwear agent U = Functional fluids and additives U = Rheological modifier K = Coating/Binder/Adhesive and additives X = Other (specify) Electrical Connect Use the following codes to designate the final product's physical form: A = Gas F2 = Crystalline solid B = Liquid F3 = Granules C = Aqueous solution F4 = Other solid D = Paste G = Gel E = Slurry H = Other (specify) F1 = Powder  3 Use the following codes to designate the type of end-users: I = Industrial CS = Consumer		n t		
G = Cleanser/Detergent/Degreaser  H = Lubricant/Friction modifier/Antiwear  agent  U = Functional fluids and additives  U = Functional fluids and additives  V = Metal alloy and additives  V = Rheological modifier  K = Coating/Binder/Adhesive and additives  X = Other (specify) Electrical Connect  Use the following codes to designate the final product's physical form:  A = Gas  B = Liquid  C = Aqueous solution  D = Paste  C = Aqueous solution  D = Paste  E = Slurry  H = Other (specify)  F1 = Powder   U = Fragrance/Flavor chemicals  V = Pollution control che				
H = Lubricant/Friction modifier/Antiwear T = Pollution control chemicals agent U = Functional fluids and additives I = Surfactant/Emulsifier V = Metal alloy and additives J = Flame retardant W = Rheological modifier K = Coating/Binder/Adhesive and additives X = Other (specify) Electrical Connec  2 Use the following codes to designate the final product's physical form: A = Gas F2 = Crystalline solid B = Liquid F3 = Granules C = Aqueous solution F4 = Other solid D = Paste G = Gel E = Slurry H = Other (specify) F1 = Powder  3 Use the following codes to designate the type of end-users: I = Industrial CS = Consumer				
agent  I = Surfactant/Emulsifier  J = Flame retardant  K = Coating/Binder/Adhesive and additives  V = Rheological modifier  V = Retal alloy and additives  V = Rheological modifier  V = Reserved				
J = Flame retardant  K = Coating/Binder/Adhesive and additives X = Other (specify) Electrical Connect  Use the following codes to designate the final product's physical form:  A = Gas  B = Liquid  C = Aqueous solution  D = Paste  G = Gel  E = Slurry  H = Other (specify)  F1 = Powder  Use the following codes to designate the type of end-users:  I = Industrial  CS = Consumer				
<pre>K = Coating/Binder/Adhesive and additives X = Other (specify) Electrical Connect  2 Use the following codes to designate the final product's physical form: A = Gas B = Liquid C = Aqueous solution D = Paste G = Gel E = Slurry H = Other (specify) F1 = Powder  3 Use the following codes to designate the type of end-users: I = Industrial CS = Consumer</pre>	<pre>H = Lubricant/Fricti agent</pre>		U = Functional fluids	and additives
Use the following codes to designate the final product's physical form:  A = Gas B = Liquid C = Aqueous solution D = Paste G = Gel E = Slurry H = Other (specify) F1 = Powder  Use the following codes to designate the type of end-users:  I = Industrial  CS = Consumer	<pre>H = Lubricant/Fricti     agent I = Surfactant/Emuls</pre>	ifier	V = Metal alloy and ad	lditives
A = Gas  B = Liquid  C = Aqueous solution  D = Paste  E = Slurry  F1 = Powder  F2 = Crystalline solid  F3 = Granules  F4 = Other solid  G = Gel  H = Other (specify)  F1 = Powder  CS = Consumer	<pre>H = Lubricant/Fricti     agent I = Surfactant/Emuls J = Flame retardant</pre>		<pre>V = Metal alloy and ac W = Rheological modifi</pre>	lditives ler
B = Liquid F3 = Granules C = Aqueous solution F4 = Other solid D = Paste G = Gel E = Slurry H = Other (specify) F1 = Powder  3 Use the following codes to designate the type of end-users: I = Industrial CS = Consumer	<pre>H = Lubricant/Fricti     agent I = Surfactant/Emuls J = Flame retardant K = Coating/Binder/A</pre>	dhesive and additive	V = Metal alloy and ac W = Rheological modifies X = Other (specify) El	lditives er ectrical Connec
C = Aqueous solution D = Paste G = Gel E = Slurry H = Other (specify) F1 = Powder  3 Use the following codes to designate the type of end-users: I = Industrial CS = Consumer	<pre>H = Lubricant/Fricti     agent I = Surfactant/Emuls J = Flame retardant K = Coating/Binder/A</pre>	dhesive and additive	<pre>V = Metal alloy and ac W = Rheological modifi es X = Other (specify) El e final product's physical</pre>	lditives er ectrical Connec
D = Paste G = Gel E = Slurry H = Other (specify) F1 = Powder  3 Use the following codes to designate the type of end-users: I = Industrial CS = Consumer	<pre>H = Lubricant/Fricti     agent I = Surfactant/Emuls J = Flame retardant K = Coating/Binder/A  2Use the following co A = Gas</pre>	dhesive and additive des to designate the F2 = Cry	<pre>V = Metal alloy and act W = Rheological modifi es X = Other (specify) El e final product's physical vstalline solid</pre>	lditives er ectrical Connec
E = Slurry F1 = Powder  3 Use the following codes to designate the type of end-users:  I = Industrial CS = Consumer	<pre>H = Lubricant/Fricti     agent I = Surfactant/Emuls J = Flame retardant K = Coating/Binder/A  2Use the following co A = Gas B = Liquid</pre>	dhesive and additive  des to designate the  F2 = Cry F3 = Gre	<pre>V = Metal alloy and act W = Rheological modifies X = Other (specify) Ele e final product's physical ystalline solid unules</pre>	lditives er ectrical Connec
F1 = Powder  3 Use the following codes to designate the type of end-users:  I = Industrial CS = Consumer	<pre>H = Lubricant/Fricti     agent I = Surfactant/Emuls J = Flame retardant K = Coating/Binder/A  2Use the following co A = Gas B = Liquid C = Aqueous solution</pre>	dhesive and additive des to designate the F2 = Cry F3 = Gra F4 = Oth	<pre>V = Metal alloy and act W = Rheological modifies X = Other (specify) Ele e final product's physical vstalline solid unules ner solid</pre>	lditives er ectrical Connec
I = Industrial CS = Consumer	<pre>H = Lubricant/Fricti     agent I = Surfactant/Emuls J = Flame retardant K = Coating/Binder/A  2Use the following co A = Gas B = Liquid C = Aqueous solution D = Paste</pre>	dhesive and additive  des to designate the  F2 = Cry F3 = Gra F4 = Oth G = Gel	<pre>V = Metal alloy and act W = Rheological modifies X = Other (specify) Ele e final product's physical vstalline solid unules ner solid</pre>	lditives er ectrical Connec
	<pre>H = Lubricant/Fricti     agent I = Surfactant/Emuls J = Flame retardant K = Coating/Binder/A  2Use the following co A = Gas B = Liquid C = Aqueous solution D = Paste E = Slurry</pre>	dhesive and additive  des to designate the  F2 = Cry F3 = Gra F4 = Oth G = Gel	<pre>V = Metal alloy and act W = Rheological modifies X = Other (specify) Ele e final product's physical vstalline solid unules ner solid</pre>	lditives er ectrical Connec
CM = Commercial H = Other (specify)	H = Lubricant/Fricti agent I = Surfactant/Emuls J = Flame retardant K = Coating/Binder/A  2Use the following co A = Gas B = Liquid C = Aqueous solution D = Paste E = Slurry F1 = Powder  3Use the following co	dhesive and additive  des to designate the  F2 = Cry F3 = Gra F4 = Oth G = Gel H = Oth	<pre>V = Metal alloy and act W = Rheological modifies X = Other (specify) Ele e final product's physical ystalline solid nules ner solid her (specify)</pre>	lditives ler ectrical Connec
	H = Lubricant/Fricti agent I = Surfactant/Emuls J = Flame retardant K = Coating/Binder/A  2Use the following co A = Gas B = Liquid C = Aqueous solution D = Paste E = Slurry F1 = Powder  3Use the following co I = Industrial	dhesive and additive  des to designate the  F2 = Cry F3 = Gra F4 = Oth G = Gel H = Oth  des to designate the	<pre>V = Metal alloy and act W = Rheological modifies X = Other (specify) Ele e final product's physical vstalline solid anules her solid her (specify) e type of end-users:</pre>	lditives ler ectrical Connec
	H = Lubricant/Fricti agent I = Surfactant/Emuls J = Flame retardant K = Coating/Binder/A   Use the following co A = Gas B = Liquid C = Aqueous solution D = Paste E = Slurry F1 = Powder   Use the following co I = Industrial	dhesive and additive  des to designate the  F2 = Cry F3 = Gra F4 = Oth G = Gel H = Oth  des to designate the  CS = Cor	<pre>V = Metal alloy and ad W = Rheological modifi es X = Other (specify) El e final product's physical vstalline solid unules ner solid er (specify) e type of end-users: usumer</pre>	ditives ler ectrical Connec al form:

2.15 CBI	Circ list	le all applicable modes of transportation used to deliver bed substance to off-site customers.	oulk shipments o	of the
[-]	Truc	k	• • • • • • • • • • • • • • • • • • • •	1
		car		
		e, VesselNA		
		lineNA		_
		eNA		
				-
	Othe	r (specify)	••••••	6
2.16 <u>CBI</u> [_]	or p of e	omer Use Estimate the quantity of the listed substance urepared by your customers during the reporting year for use nd use listed (i-iv).  gory of End Use	sed by your cus under each cat	tomers egory
	i.	Industrial Products		
		Chemical or mixture	NA	_ kg/yr
		Article	NA	kg/yr
	ii.	Commercial Products		
		Chemical or mixture	NA NA	_ kg/yr
		Article	NA	_ kg/yr
	iii.	Consumer Products		
		Chemical or mixture	. NA	_ kg/yr
		Article	NA	kg/yr
	iv.	Other		
		Distribution (excluding export)	NA	kg/yr
		Export	NA	_ kg/yr
		Quantity of substance consumed as reactant	NA	_ kg/yr
		Unknown customer uses	NA	_
<u></u>	Mark	(X) this box if you attach a continuation sheet.		
`'				

# SECTION 3 PROCESSOR RAW MATERIAL IDENTIFICATION

PART	A GENERAL DATA		
3.01 <u>CBI</u> []	Specify the quantity purchased and the average price for each major source of supply listed. Product tra The average price is the market value of the product substance.	des are treated as	s purchases.
`	Source of Supply	Quantity (kg)	Average Price (\$/kg)
		Not Applicable	
	The listed substance was manufactured on-site.	NA	NA NA
	The listed substance was transferred from a different company site.	NA	NA
	The listed substance was purchased directly from a manufacturer or importer.	NA	NA
	The listed substance was purchased from a distributor or repackager.	0.7545	27.29
	The listed substance was purchased from a mixture producer.	NA	NA
3.02 CBI	Circle all applicable modes of transportation used to your facility.  Truck  Railcar  Barge, Vessel  Pipeline  Plane  Other (specify)		
·			
[_]	Mark (X) this box if you attach a continuation sheet.	•	

3.03 <u>CBI</u>	a.	Circle all applicable containers used to transport the listed subsfacility.	tance to yo	our
[_]	(	Bags  Boxes)		
		Free standing tank cylinders		
		Tank rail cars		
		Hopper cars		5
		Tank trucks	• • • • • • • • • •	6
		Hopper trucks	• • • • • • • • • •	7
		Drums	•	
		Pipeline		
		Other (specify)		
	b.	If the listed substance is transported in pressurized tank cylinde cars, or tank trucks, state the pressure of the tanks.		
		Tank cylinders	(NA)	mmHg
		Tank rail cars	NA	mmHg
		Tank trucks	NA	mmHg
		·		
	Mari	c (X) this box if you attach a continuation sheet.		

average percent composi amount of mixture proce	e of its supplier(s) tion by weight of the	orm of a mixture, list the or manufacturer(s), an estellisted substance in the matter ting year.	imate of the
Trade Name	Supplier or <u>Manufacturer</u>	Average % Composition by Weight (specify ± % precision)	Amount Processed (kg/yr)
rt A/EN9OZR Part A	Piedmont Polymers	15 + 0	5.03
Applicable (NA)	NA	NA	NA
NA	NA	NA	NA
NA	NA	NA	NA
	rt A/EN9OZR Part A Applicable (NA) NA	Trade Name  Manufacturer  rt A/EN9OZR Part A  Piedmont Polymers  Applicable (NA)  NA  NA  NA	Supplier or by Weight  Trade Name  Manufacturer  Trade Name  Manufacturer  Supplier or by Weight  (specify ± % precision)  15 + 0  15 - 3  Applicable (NA)  NA  NA  NA  NA  NA  NA  NA  NA

BI reporting year in the fo	he listed substance used as a ray orm of a class I chemical, class , by weight, of the listed substa	II chemical, or nolumer and
<b>-</b> '	Quantity Used (kg/yr)	% Composition by Weight of Listed Substance in Raw Material (specify $\pm$ % precision
Class I chemical	Not Applicable (NA) NA	NA
	NA	NA
	NA	NA
Class II chemical	NA	NA
	NA	NA NA
	NA	NA
Polymer	. 7545	15 + o
	NA	NA
	NA	NA
	p.	
		•

[ ] Mark (X) this box if you attach a continuation sheet.

# SECTION 4 PHYSICAL/CHEMICAL PROPERTIES

Gener	cal Instructions:			
If you	ou are reporting on a mix at are inappropriate to m	ture as defined in the ixtures by stating "Na	e glossary, reply to qu A mixture."	uestions in Sectio
notic	questions 4.06-4.15, if y se that addresses the inf mile in lieu of answerin	ormation requested, ye	ou may submit a copy or	pel, MSDS, or othe rreasonable
PART	A PHYSICAL/CHEMICAL DAT	A SUMMARY		
4.01 CBI	Specify the percent pur substance as it is manu substance in the final import the substance, o	factured, imported, o product form for manu	r processed. Measure if facturing activities,	the purity of the at the time you
[_]	Not Applicable (NA)	Manufacture	<u>Import</u>	Process
	Technical grade #1	NA % purity	NA % purity	UK % puri
	Technical grade #2	NA % purity	NA % purity	UK % puri
	Technical grade #3	NA % purity	NA % purity	UK % puri
<b></b> -	<sup>1</sup> Major = Greatest quant	ity of listed substan	ce manufactured, impor	ted or processed.
4.02	Submit your most recent substance, and for ever an MSDS that you develoversion. Indicate whet appropriate response.	y formulation contain ped and an MSDS devel	ing the listed substant oped by a different so	ice. If you posse ource, submit your
(	Yes	• • • • • • • • • • • • • • • • • • • •		
	No	• • • • • • • • • • • • • • • • • • • •	• • • • • • • • • • • • • • • • • • • •	, <b></b> .
	Indicate whether the MS	DS was developed by y	your company or by a di	ifferent source.
	Your company	• • • • • • • • • • • • • • • • • • • •		

[ ] Mark (X) this box if you attach a continuation sheet.

C O N A P I N C . 1405 Buffalo St. Olean, New York 14760 716/372-9650

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==========
              MATERIAL SAFETY DATA SHEET ========
Note: This form is to be used to comply with OSHA's Hazard
Communication Standard, 29 CFR 1910.1200. Blank spaces are
not permitted.
Trade Name Conathane EN-9 Part A
                                     Date:5/25/89
Chemical Name, common name: Complex Mixture; Polyurethane
                        Prepolymer
========= II. HAZARDOUS
                           INGREDIENTS =========
                CAS No. % ACGIH(TLV) OSHA(PEL) Other
Chemical Names
Toluene 2,4 Diisocyanate 584-84-9 <15%
                                    .005ppm TWA
                       .005ppm TWA .02ppm STEL ND
Material may present a dust hazard if cut, ground or
machined after curing.
Boiling Point
               ND
                      !Specific Gravity (H2O=1) 1.06
Vapor Pressure, mm Hg ND
                       !Vapor Density (air=1)
Melting Pt./Range ND !Evaporation rate (Ether=1) ND
Solubility in Water: REACTS! Physical State: LIQUID
Percent volatile by volume: Negligible
Appearance and Odor: Liquid; For TDI Sharp pungent (odor
threshold greater than TLV)
======== IV. FIRE AND EXPLOSION DATA ==========
Flash Point, F (Method): > 260 F PMCC
Flammable Limits
               ND
                      LEL ND
                                    ND
Extinguishing Materials:
-XX-Water Spray
                  -XX-Dry Chemical
                                   -XX-Carbon Dioxide
-XX-Foam
                  -ND-Other:
Special Firefighting Procedures/Unusual Fire or Explosion
Hazards:
Full emergency equipment with self-contained breathing
apparatus and full protective clothing should be worn by
fire fighters. No skin surface should be exposed. During a
fire TDI vapors and other irritating, highly toxic gases
may be generated by thermal decomposition or combustion. At
temperatures greater than 350 F TDI forms carbodiimides
with the release of CO2 which can cause pressure build-up
in closed containers. Explosive rupture is possible.
Therefore, use cold water to cool fire-exposed containers.
======= V. HEALTH HAZARD INFORMATION ==========
ACUTE TOXICITY (Routes of entry)
Inhalation:
LC50.(4 hr.): Range 16-50ppm for 1-4 hr (Rat) on TDI. TDI
```

vapors or mist at concentrations above the TLV can irritate (burning sensation) the mucous membranes in the respiratory tract (nose, throat, lungs) causing runny nose, sore throat, coughing, chest discomfort, shortness of breath and reduced lung function (breathing obstruction). Persons with a preexisting, nonspecific bronchial hyperactivity can respond to concentrations below the TLV with similar symptoms as well as asthma attack. Exposure well above the TLV may lead to bronchitis. bronchial spasm and pulmonary edema (fluid in the lungs). These effects are usually reversible. Chemical or hypersensitive pneumonitis, with flu-like symptoms (e.g. fever, chills), has also been reported. These symptoms can be delayed up to several hours after exposure.

Ingestion:

ORAL,LD50 > 5800 mg/kg (Rats). Can result in irritation and corrosive action in the mouth, stomach tissue and digestive tract. Symptoms can include sore throat, abdominal pain, nausea, vomiting and diarrhea. Eye Contact:

Strongly irritating (Rabbits) OECD Guidelines. Liquid, aerosols or vapors are severely irritating and can cause pain, tearing, reddening and swelling. If left untreated, corneal damage can occur and injury is slow to heal. however, damage is usually reversible.

Skin Contact:

Skin sensitizer in guinea pigs. One study with guinea pigs reported that repeated skin contact with TDI caused respiratory sensitization. Isocyanates react with skin protein and moisture and can cause irritation which may include the following symptoms: reddening, swelling, rash, scaling or blistering. Cured material is difficult to remove.

Skin Absorption:

ND

CHRONIC TOXICITY Carcinogenicity:

--X-Yes: --X---NTP --X----IARC ----Federal OSHA In a DRAFT of a lifetime bioassay, the National Toxicology Program reported that TDI caused an increase in the number of tumors in exposed rats over those counted in non-exposed rats. The TDI was administered by gavage where TDI was introduced into the stomach through a tube. In lifetime inhalation studies conducted by Hazelton Labs for the International Isocyanate Institute, TDI did NOT demonstrate carcinogenic activity in rats or mice.

Target Organ Affected:

No specific information available.

Effects of Overexposure:

# Inhalation:

Inhalation of TDI vapors at concentrations above allowable limits can produce irritation of the mucous membranes in the respiratory tract resulting in running nose, sore throat, productive cough and a reduction in lung function (breathing obstruction). As a result of previous repeated overexposures or a single large dose, certain individuals may develop isocyanate sensitization (chemical asthma) which will cause them to react to a later exposure to isocyanate at levels well below the TLV. Another type of response is hyperreactivity or hypersensitivity, in which persons, (as a result of a previous repeated overexposure or large single dose), can respond to small TDI concentrations at levels well below the .02ppm. Symptoms could be immediate or delayed and include chest tightness, wheezing, cough, shortness of breath or asthmatic attack. Hypersensitivity pneumonitis (with similar respiratory symptoms and fever which has been delayed) has also been reported. Similar to many non-specific asthmatic responses, there are reports that once sensitized an individual can experience these symptoms upon exposure to dust, cold air or other irritants. This increased lung sensitivity can persist for weeks and in severe cases for several years. Chronic overexposure to isocyanate has also been reported to cause lung damage (including decrease in lung function) which may be permanent. Sensitization can either be temporary or permanent.

## Eyes:

Liquid, vapors or aerosols are severely irritating to the eyes and can cause tears. Prolonged vapor contact may cause conjunctivitis. Corneal injury can occur which can be slow to heal; however damage is usually reversible.

TDI reacts with skin protein and tissue moisture and can cause localized irritation as well as discoloration. Prolonged contact could produce reddening, swelling, or blistering and, in some individuals, skin sensitization resulting in dermatitis. Once sensitized a individual can develop recurring symptoms as a result of exposure to vapor.

#### Ingestion:

Ingestion could result in irritation and some corrosive action in the mouth, stomach tissue and digestive tract. Symptoms can include sore throat, abdominal pain, nausea, vomiting and diarrhea.

Medical Conditions Aggravated By Exposure Asthma, other respiratory disorders (bronchitis, emphysema, bronchial hyperreactivity), skin allergies, eczema. FIRST AID: EMERGENCY PROCEDURES

Eye Contact:

Flush with clean, lukewarm water (low pressure) for at least 15 minutes, occasionally lifting eyelids, and obtain medical attention. Refer individual to an ophthalmologist for immediate follow-up.

Skin Contact:

Remove contaminated clothing. Wash effected areas thoroughly with soap or tincture of green soap and water. Wash contaminated clothing thoroughly before reuse. For severe exposures, get under safety shower, remove clothing under shower, get medical attention, and consult physician. Inhalation:

Move to an area free from risk of further exposure. Administer oxygen or artificial respiration as needed. Obtain medical attention. Asthmatic-type symptoms may develop and be immediate or delayed up to several hours. Consult physician.

Ingested:

Do not induce vomiting. Give 12 fl. oz. of milk or water to drink. DO NOT GIVE ANYTHING BY MOUTH TO AN UNCONSCIOUS PERSON. Consult physician.

Recommendations to Physician:

Eyes: Stain for evidence of corneal injury. If cornea is burned, instill antibiotic steroid preparation frequently. Workplace vapors have produced reversible corneal epithelial edema impairing vision. This compound is a known skin sensitizer. Treat symptomatically as for contact dermatitis or thermal burns. There is no specific antidote for ingestion treat symptomatically. Inducing vomiting is contraindicated because of the irritating nature of this compound. TDI is a known pulmonary sensitizer. Treatment is essentially symptomatic. An individual having a skin or pulmonary sensitization reaction to this material should be removed from exposure to any isocyanate.

Stability: --XX-Stable -NA--Unstable Conditions to Avoid: Temperatures higher than recommended in product literature.

Incompatibility (materials to avoid):

Water, short chain alcohols, amines

Hazardous Decomposition Products

By heat and fire: carbon dioxide, carbon monoxide, oxides of nitrogen and traces of hydrogen cyanide, TDI. Hazardous Polymerization: NA-May Occur X-Will not occur Conditions to avoid:

====== VII. SPILL, LEAK AND DISPOSAL PROCEDURES ====== Steps to be taken if material is released or spilled: Consult section VIII for proper protective equipment.

Cover the spill with sawdust, vermiculite, Fuller's earth or other absorbent material. Pour decontamination solution over the spill area and allow to react for at least 10 minutes. Collect the material in open top containers and add additional amounts of decontamination solution. Remove containers to a safe place, cover loosely, and allow to stand for 24 to 48 hours. Wash down spill area with decontamination solutions. Decontamination solutions: non-ionic surfactant Union Carbide's Tergitol TMN-10(20%) and water (80%); or concentrated ammonia (3-8%), detergent (2%), and water (90%). During spill clean-up, a self contained breathing apparatus or air line respirator and protective clothing must be worn. (See section VIII). Reportable Quantity CERCLA: 1001bs

Waste Disposal Method:

Dispose according to any Local, State and Federal Regulations.

======= VIII. SPECIAL HANDLING INFORMATION ========= Respiratory Protection:

A positive pressure air-supplied respirator is required whenever TDI concentrations exceed the Short-Term Exposure or Ceiling Limit of .02ppm or exceed the 8 hour Time Weighted Average TLV of 0.005 ppm. An air supplied respirator must also be worn during spray application, even if exhaust ventilation is used. For non-spray, short-term(less than 1 hour) situations where concentrations are near the TLV, a full face, air-purifying respirator equipped with organic cartridges or canisters can be used. However, TDI has poor warning properties since the odor at which TDI can be smelled is substantially higher than the 0.02 ppm. Therefore, proper fit and timely replacement of filter elements must be ensured. Observe OSHA regulations for respirator use. (29CFR 1910.134). Ventilation:

Local exhaust should be used to maintain levels below the TLV whenever TDI containing material is handled, processed, or spray-applied. At normal room temperatures (70 F) TDI levels quickly exceed the TLV unless properly ventilated. Standard reference sources regarding industrial ventilation (e.g., ACGIH INDUSTRIAL VENTILATION) should be consulted for guidance about adequate ventilation.

Protective Gloves: Chemical resistant gloves (butyl rubber, nitrile rubber, polyvinyl alcohol). However, please note that PVA degrades in water.

Eye Protection:

Liquid chemical goggles or full face shield should be worn. Contact lenses should not be worn. Other Protective Clothing or Equipment: Safety showers and eyewash stations should be available. Cover as much of exposed skin as possible with appropriate clothing.

Work Practices, hygienic practices Educate and train employees in safe use of product. Follow all label instructions. ========= IX SPECIAL PRECAUTIONS =========== Handling and Storage: Store in tightly closed containers to prevent moisture contamination. Do not reseal if contamination is suspect. Other Precautions: Avoid contact with eyes and skin. Do not breathe the ========= X ADDITIONAL INFORMATION =============== SARA Title III Requirements: TDI is on the Extremely Hazardous Substance. Chemical Name Section: 302 CERCLA \_\_\_\_\_\_ Toluene 2,4 Diisocyanate TPQ-500 LBS | RQ-100 LBS | YES \_\_\_\_\_\_\_ T.S.C.A. Status: On Inventory Name(print): George C. Karpin !This formulation is subject Signature: !to change without notice. Title:Toxicological Coordinator!In case of accident use the Date of last revision5/25/89!phone number provided. \_\_\_\_\_\_ To the best of our knowledge, the information contained herein is accurate and meets all state and federal guidelines. However, CONAP INC. does not assume any liability whatsoever for the accuracy or completeness of the information contained herein. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards which exist. Final determination of the suitability of any material is the sole responsibility of the user. Date approved 5 /26 /89 Approved: - Land Malle ND=Not Determined NA=Not Applicable 124/89 Approved: And Walle

C O N A P I N°C . 1405 Buffalo St. Olean, New York 14760 716/372-9650

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MATERIAL SAFETY DATA SHEET =========
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not permitted.
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Chemical Name, common name: Complex Mixture; Polyurethane
                        Prepolymer
========= II. HAZARDOUS
                           INGREDIENTS
                                     CAS No.
Chemical Names
                        % ACGIH(TLV) OSHA(PEL) Other
Toluene 2,4 Diisocyanate 584-84-9 <15% .005ppm TWA
                            .005ppm TWA .02ppm STEL ND
   Material may present a dust hazard if cut, ground or
machined after curing.
Boiling Point
                ND
                      !Specific Gravity (H2O=1) 1.06
Vapor Pressure, mm Hg ND
                       !Vapor Density (air=1)
Melting Pt./Range
                   ND !Evaporation rate (Ether=1) ND
Solubility in Water: REACTS! Physical State: LIQUID
Percent volatile by volume: Negligible
Appearance and Odor: Liquid; For TDI Sharp pungent (odor
threshold greater than TLV)
========= IV. FIRE AND EXPLOSION DATA ===========
Flash Point, F (Method): > 260 F PMCC
Flammable Limits
                ND
                      LEL ND
                               UEL
                                    ND
Extinguishing Materials:
-XX-Water Spray
                  -XX-Dry Chemical
                                   -XX-Carbon Dioxide
-XX-Foam
                  -ND-Other:
Special Firefighting Procedures/Unusual Fire or Explosion
Hazards:
Full emergency equipment with self-contained breathing
apparatus and full protective clothing should be worn by
fire fighters. No skin surface should be exposed. During a
fire TDI vapors and other irritating, highly toxic gases
may be generated by thermal decomposition or combustion. At
temperatures greater than 350 F TDI forms carbodismides
with the release of CO2 which can cause pressure build-up
in closed containers. Explosive rupture is poss ble.
Therefore, use cold water to cool fire-exposed containers.
======= V. HEALTH HAZARD INFORMATION ==========
ACUTE TOXICITY (Routes of entry)
Inhalation:
LC50.(4 hr.): Range 16-50ppm for 1-4 hr (Rat) on TDI. TDI
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vapors or mist at concentrations above the TLV can irritate (burning sensation) the mucous membranes in the respiratory tract (nose, throat, lungs) causing runny nose, sore throat, coughing, chest discomfort, shortness of breath and reduced lung function (breathing obstruction). Persons with a preexisting, nonspecific bronchial hyperactivity can respond to concentrations below the TLV with similar symptoms as well as asthma attack. Exposure well above the TLV may lead to bronchitis. bronchial spasm and pulmonary edema (fluid in the lungs). These effects are usually reversible. Chemical or hypersensitive pneumonitis, with flu-like symptoms (e.g. fever, chills), has also been reported. These symptoms can be delayed up to several hours after exposure.

Ingestion:

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Skin Contact:

Skin sensitizer in guinea pigs. One study with guinea pigs reported that repeated skin contact with TDI caused respiratory sensitization. Isocyanates react with skin protein and moisture and can cause irritation which may include the following symptoms: reddening, swelling, rash, scaling or blistering. Cured material is difficult to remove.

Skin Absorption:

CHRONIC TOXICITY Carcinogenicity:

--X-Yes: --X---NTP --X----IARC ----Federal OSHA
In a DRAFT of a lifetime bioassay, the National Toxicology
Program reported that TDI caused an increase in the number
of tumors in exposed rats over those counted in non-exposed
rats. The TDI was administered by gavage where TDI was
introduced into the stomach through a tube. In lifetime
inhalation studies conducted by Hazelton Labs in the
International Isocyanate Institute, TDI did NOT demonstrate
carcinogenic activity in rats or mice.
Target Organ Affected:

No specific information available.

Effects of Overexposure:

#### Inhalation:

Inhalation of TDI vapors at concentrations above allowable limits can produce irritation of the mucous membranes in the respiratory tract resulting in running nose, sore throat, productive cough and a reduction in lung function (breathing obstruction). As a result of previous repeated overexposures or a single large dose, certain individuals may develop isocyanate sensitization (chemical asthma) which will cause them to react to a later exposure to isocyanate at levels well below the TLV. Another type of response is hyperreactivity or hypersensitivity, in which persons, (as a result of a previous repeated overexposure or large single dose), can respond to small TDI concentrations at levels well below the .02ppm. Symptoms could be immediate or delayed and include chest tightness, wheezing, cough, shortness of breath or asthmatic attack. Hypersensitivity pneumonitis (with similar respiratory symptoms and fever which has been delayed) has also been reported. Similar to many non-specific asthmatic responses, there are reports that once sensitized an individual can experience these symptoms upon exposure to dust, cold air or other irritants. This increased lung sensitivity can persist for weeks and in severe cases for several years. Chronic overexposure to isocyanate has also been reported to cause lung damage (including decrease in lung function) which may be permanent. Sensitization can either be temporary or permanent.

#### Eyes:

Liquid, vapors or aerosols are severely irritating to the eyes and can cause tears. Prolonged vapor contact may cause conjunctivitis. Corneal injury can occur which can be slow to heal; however damage is usually reversible. Skin:

TDI reacts with skin protein and tissue moisture and can cause localized irritation as well as discoloration. Prolonged contact could produce reddening, swelling, or blistering and, in some individuals, skin sensitization resulting in dermatitis. Once sensitized a individual can develop recurring symptoms as a result of exposure to vapor.

### Ingestion:

Ingestion could result in irritation and some corrosive action in the mouth, stomach tissue and digestive tract. Symptoms can include sore throat, abdominal pain, nausea, vomiting and diarrhea.

Medical Conditions Aggravated By Exposure Asthma, other respiratory disorders (bronchitis, emphysema, bronchial hyperreactivity), skin allergies, eczema. FIRST AID: EMERGENCY PROCEDURES

Eye Contact:

Flush with clean, lukewarm water (low pressure) for at least 15 minutes, occasionally lifting eyelids, and obtain medical attention. Refer individual to an ophthalmologist for immediate follow-up.

Skin Contact:

Remove contaminated clothing. Wash effected areas thoroughly with soap or tincture of green soap and water. Wash contaminated clothing thoroughly before reuse. For severe exposures, get under safety shower, remove clothing under shower, get medical attention, and consult physician. Inhalation:

Move to an area free from risk of further exposure. Administer oxygen or artificial respiration as needed. Obtain medical attention. Asthmatic-type symptoms may develop and be immediate or delayed up to several hours. Consult physician.

Ingested:

Do not induce vomiting. Give 12 fl. oz. of milk or water to drink. DO NOT GIVE ANYTHING BY MOUTH TO AN UNCONSCIOUS PERSON. Consult physician.

Recommendations to Physician:

Eyes: Stain for evidence of corneal injury. If cornea is burned, instill antibiotic steroid preparation frequently. Workplace vapors have produced reversible corneal epithelial edema impairing vision. This compound is a known skin sensitizer. Treat symptomatically as for contact dermatitis or thermal burns. There is no specific antidote for ingestion treat symptomatically. Inducing vomiting is contraindicated because of the irritating nature of this compound. TDI is a known pulmonary sensitizer. Treatment is essentially symptomatic. An individual having a skin or pulmonary sensitization reaction to this material should be removed from exposure to any isocyanate.

Stability: --XX-Stable -NA--Unstable Conditions to Avoid: Temperatures higher than recommended in product literature.

Incompatibility (materials to avoid):

Water, short chain alcohols, amines

Hazardous Decomposition Products

By heat and fire: carbon dioxide, carbon monoxide, oxides of nitrogen and traces of hydrogen cyanide, TDI.

Hazardous Polymerization: NA-May Occur X-Will not occur Conditions to avoid:

ND

====== VII. SPILL, LEAK AND DISPOSAL PROCEDURES ======= Steps to be taken if material is released or spilled: Consult section VIII for proper protective equipment.

Cover the spill with sawdust, vermiculite, Fuller's earth or other absorbent material. Pour decontamination solution over the spill area and allow to react for at least 10 minutes. Collect the material in open top containers and add additional amounts of decontamination solution. Remove containers to a safe place, cover loosely, and allow to stand for 24 to 48 hours. Wash down spill area with decontamination solutions. Decontamination solutions: non-ionic surfactant Union Carbide's Tergitol TMN-10(20%) and water (80%); or concentrated ammonia (3-8%), detergent (2%), and water (90%). During spill clean-up, a self contained breathing apparatus or air line respirator and protective clothing must be worn. (See section VIII). Reportable Quantity CERCLA: 1001bs

Waste Disposal Method:

Dispose according to any Local, State and Federal Regulations.

====== VIII. SPECIAL HANDLING INFORMATION ======== Respiratory Protection:

A positive pressure air-supplied respirator is required whenever TDI concentrations exceed the Short-Term Exposure or Ceiling Limit of .02ppm or exceed the 8 hour Time Weighted Average TLV of 0.005 ppm. An air supplied respirator must also be worn during spray application, even if exhaust ventilation is used. For non-spray, short-term(less than 1 hour) situations where concentrations are near the TLV, a full face, air-purifying respirator equipped with organic cartridges or canisters can be used. However, TDI has poor warning properties since the odor at which TDI can be smelled is substantially higher than the 0.02 ppm. Therefore, proper fit and timely replacement of filter elements must be ensured. Observe OSHA regulations for respirator use. (29CFR 1910.134). Ventilation:

Local exhaust should be used to maintain levels below the TLV whenever TDI containing material is handled, processed, or spray-applied. At normal room temperatures (70 F) TDI levels quickly exceed the TLV unless properly ventilated. Standard reference sources regarding industrial ventilation (e.g., ACGIH INDUSTRIAL VENTILATION) should be consulted for guidance about adequate ventilation.

Protective Gloves: Chemical resistant gloves (butyl rubber, nitrile rubber, polyvinyl alcohol). However, please note that PVA degrades in water.

Eye Protection:

Liquid chemical goggles or full face shield should be worn. Contact lenses should not be worn. Other Protective Clothing or Equipment: Safety showers and eyewash stations should be available. Cover as much of exposed skin as possible with appropriate clothing.

Work Practices, hygienic practices Educate and train employees in safe use of product. Follow all label instructions. ========= IX SPECIAL PRECAUTIONS ============== Handling and Storage: Store in tightly closed containers to prevent moisture contamination. Do not reseal if contamination is suspect. Other Precautions: Avoid contact with eyes and skin. Do not breathe the ======== X ADDITIONAL INFORMATION ============== SARA Title III Requirements: TDI is on the Extremely Hazardous Substance. Chemical Name Section: 302 CERCLA \_\_\_\_\_\_ Toluene 2,4 Diisocyanate TPQ-500 LBS | RQ-100 LBS | YES T.S.C.A. Status: On Inventory Name(print):George C. Karpin !This formulation is subject Signature: !to change without notice. Title: Toxicological Coordinator! In case of accident use the Date of last revision5/25/89!phone number provided. To the best of our knowledge, the information contained herein is accurate and meets all state and federal guidelines. However, CONAP INC. does not assume any liability whatsoever for the accuracy or completeness of the information contained herein. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards which exist. Final determination of the suitability of any material is the sole responsibility of the user. Date approved 5 /26 /89 Approved: -- Mall Mall C.

ND=Not Determined

NA=Not Applicable

Spal 89 Approved: A shill contains the spale of the spale o

4.03	Submit a copy or reasonable facsimile of any hazard information (other than an MSD that is provided to your customers/users regarding the listed substance or any formulation containing the listed substance. Indicate whether this information has been submitted by circling the appropriate response.  NA - MIXTURE			
	Yes			
	No			
4.04	For each activity that uses the listed substance, circle all the applicable number(s corresponding to each physical state of the listed substance during the activity listed. Physical states for importing and processing activities are determined at the time you import or begin to process the listed substance. Physical states for			
<u>CBI</u>	manufacturing, storage, disposal and transport activities are determined using the final state of the product.			

	Physical State					
<u>Activity</u>	Solid	Slurry	Liquid	Liquified Gas	Ga	
Manufacture	. 1	2	3	4	5	
Import	1	2	3	4	5	
Process	1	2	3	4	5	
Store	1	2	3	4	5	
Dispose	1	2	3	4	5	
Transport	1	2	• 3	4	u ı	

<sup>[ ]</sup> Mark (X) this box if you attach a continuation sheet.

	disposal and transp	icable (NA)	331.16	c ringi	State 0	T the pro	duct
Physical State		Manufacture	Import	Process	Store	Dispose	Tra
Dust	<pre>&lt;1 micron</pre>	NA	NA	NA	NA	NA	1
	1 to <5 microns	NA	NA_	NA	NA	NA	
	5 to <10 microns	NA	<u>NA</u>	<u>NA</u>	NA	NA	
Powder	<1 micron	NA	NA	NA	NA	NA	
	1 to <5 microns	NA_	NA	NA	NA	NA	
	5 to <10 microns	<u>NA</u>	NA	NA NA	NA	NA	
Fiber	<1 micron	NA	NA_	<u>NA</u>	NA	NA_	
	1 to <5 microns	NA	NA	NA	NA	NA_	
	5 to <10 microns	NA	<u>NA</u>	NA	NA	_NA_	1
Aerosol	<1 micron	NA	_NA	NA	<u>NA</u>	NA_	_1
	1 to <5 microns	NA	<u>NA</u>	NA_	Ν̈́Α	NA	
	5 to <10 microns	NA	<u> NA</u>	NA	<u>NA</u>	<u>NA</u>	1

[] Mark (X) this box if you attach a continuation shee		Mark (X	) this bo	x if yo	u attach a	continuation	sheet
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SECTION	5	ENVIRONMENTAL FATE
	_	DIVITATION DE L'ALE

5.01	Ol Indicate the rate constants for the following transformation processes						
	a.	Photolysis:					
		Absorption spectrum coefficient (peak)	UK	(1/M cm)	at	UK	מת
		Reaction quantum yield, 6	UK		at	UK	nm
		Direct photolysis rate constant, k <sub>p</sub> , at	UK	1/hr		UK	latitud
	b.	Oxidation constants at 25°C:					
		For 10, (singlet oxygen), k <sub>ox</sub>		UK			1/H
		For RO <sub>2</sub> (peroxy radical), k <sub>ox</sub>		UK			1/M
	c.	Five-day biochemical oxygen demand, BOD,		UK			mg/]
	d.	Biotransformation rate constant:					
		For bacterial transformation in water, k <sub>b</sub>		UK			1/h:
		Specify culture		UK			
	e.	Hydrolysis rate constants:					<del></del>
		For base-promoted process, k,		UK			1/M

For acid-promoted process, k, ..... UK

Chemical reduction rate (specify conditions) UK

Other (such as spontaneous degradation) ... UK

For neutral process,  $k_{_{N}}$  ...... UK

_1	Mark (X)	this	box	if you	attach	a	continuation	sheet	•		

5.02	a.	Specify	the	half-life	of	the	listed	substance	in	the	following	media.

		Media		Half-life (specif	y uni	<u>.ts)</u>	
		Groundwater		UK			
		Atmosphere		UK			
		Surface water		UK			
		Soil		UK			
	b.	Identify the listed s life greater than 24	ubstance's known tra		that	have a	half-
		CAS No.	Name	Half-life (specify units)		Media	<u>a</u>
		UK	UK	UK	in _	UK	
		UK	UK	UK	in _	UK	
		UK	UK	UK	in	UK	
		UK	UK	UK	in	UK	
					_		
5.03	Spec	ify the octanol-water	partition coefficie	ent, K	UK		at 25°
	Meth	od of calculation or d	letermination	• • • • • • • • • • • • • • • • • • • •	UK		
5.04	Spec	ify the soil-water par	tition coefficient,	K <sub>d</sub>	UK		at 25°
	Soil	type	•••••••••		UK		
5.05	Spec coef:	ify the organic carbon ficient, K <sub>ec</sub>	-water partition	•••••	UK		at 25°
5.06	Speci	ify the Henry's Law Co.	nstant, H		UK	at=-	m³/mo:
<u></u>	Mark	(X) this box if you a	ttach a continuatio	n sheet.			

Bioconcentration Factor	<u>Species</u>	<u>Test<sup>1</sup></u>
<u>UK</u>	UK	UK
UK	UK	UK
UK	UK	UK
Use the following codes to des	signate the type of test:	
F = Flowthrough S = Static		
		•

for the listed substance and state the cost of each substitute. A commercially feasible substitute is one which is economically and technologically feasible to in your current operation, and which results in a final product with comparable performance in its end uses.		Market	Quantity Sold or Transferred (kg/yr)		al Sales ue (S/yr)
Distribution Retailers  Intra-company transfer  Repackagers  Mixture producers  Other chemical manufacturers or processors  Exporters  Other (specify)  Substitutes List all known commercially feasible substitutes that you know e for the listed substance and state the cost of each substitute. A commercially feasible substitute is one which is economically and technologically feasible tin your current operation, and which results in a final product with comparable performance in its end uses.  Substitute  Cost (S/kg)  UK  UK		Retail sales			
Intra-company transfer  Repackagers  Mixture producers  Other chemical manufacturers or processors  Exporters  Other (specify)  Substitutes List all known commercially feasible substitutes that you know e for the listed substance and state the cost of each substitute. A commercially feasible substitute is one which is economically and technologically feasible tin your current operation, and which results in a final product with comparable performance in its end uses.  Substitute  Ocst (S/kg)  UK  UK  UK		Distribution Wholesalers			
Repackagers  Mixture producers  Article producers  Other chemical manufacturers or processors  Exporters  Other (specify)  Substitutes List all known commercially feasible substitutes that you know e for the listed substance and state the cost of each substitute. A commercially feasible substitute is one which is economically and technologically feasible tin your current operation, and which results in a final product with comparable performance in its end uses.  Substitute  Cost (S/kg)  UK  UK  UK		Distribution Retailers			
Mixture producers  Article producers  Other chemical manufacturers or processors  Exporters  Other (specify)  Substitutes List all known commercially feasible substitutes that you know e for the listed substance and state the cost of each substitute. A commercially feasible substitute is one which is economically and technologically feasible to in your current operation, and which results in a final product with comparable performance in its end uses.  Substitute  Ocost (S/kg)  UK  UK  UK		Intra-company transfer			
Article producers  Other chemical manufacturers or processors  Exporters  Other (specify)  Substitutes List all known commercially feasible substitutes that you know e for the listed substance and state the cost of each substitute. A commercially feasible substitute is one which is economically and technologically feasible tin your current operation, and which results in a final product with comparable performance in its end uses.  Substitute  Cost (S/kg)  UK  UK  UK		Repackagers		<u> </u>	
Other chemical manufacturers or processors  Exporters  Other (specify)  Substitutes List all known commercially feasible substitutes that you know e for the listed substance and state the cost of each substitute. A commercially feasible substitute is one which is economically and technologically feasible tin your current operation, and which results in a final product with comparable performance in its end uses.  Substitute  Ocst (S/kg)  UK  UK  UK		Mixture producers			
Other (specify)  Substitutes List all known commercially feasible substitutes that you know e for the listed substance and state the cost of each substitute. A commercially feasible substitute is one which is economically and technologically feasible tin your current operation, and which results in a final product with comparable performance in its end uses.  Substitute  Ocst (S/kg)  UK  UK  UK		Article producers			
Other (specify)  Substitutes List all known commercially feasible substitutes that you know e for the listed substance and state the cost of each substitute. A commercially feasible substitute is one which is economically and technologically feasible to in your current operation, and which results in a final product with comparable performance in its end uses.  Substitute  Cost (S/kg)  UK  UK  UK					
Substitutes List all known commercially feasible substitutes that you know e for the listed substance and state the cost of each substitute. A commercially feasible substitute is one which is economically and technologically feasible to in your current operation, and which results in a final product with comparable performance in its end uses.    Substitute		Exporters			
for the listed substance and state the cost of each substitute. A commercially feasible substitute is one which is economically and technologically feasible to in your current operation, and which results in a final product with comparable performance in its end uses.  Substitute  Ocst (S/kg)  UK  UK  UK		Other (specify)			
Substitute         Cost (\$/kg)           UK         UK           UK         UK	•	for the listed substance and state feasible substitute is one which is in your current operation, and which	the cost of each substitute economically and technology	te. A o	commercially feasible t
UK UK UK					Cont (\$/kg)
UK UK			•	•	
				<del></del>	
UKUK		UK			
		1117			UK
		UK			
		UK			
		<u>UK</u>			

Cana	1	Inst	THE	+10	nne:

For questions 7.04-7.06, provide a separate response for each process block flow diagram provided in questions 7.01, 7.02, and 7.03. Identify the process type from which the information is extracted.

7.01 In accordance with the in major (greatest volume) p		rocess block flow diagram showing the listed substance.
[ ] Process type Po	lyurethane Molding	
EN9, Part A/EN9 OZR,	Part A, 60 grams	7A
EN9, Part B/EN9 OZR,	Part B, 10.5 grams———	7в
•	Weigh each component in on grams scales	nto a paper cup
		7C
	Mix with a stainless st	ceel spatula 7.2
		7D
	Insert into a 30cc syri	inge 7.3
•		7E
•	Inject into the mold co	ontaining the connector
		7F
	Cure in oven for four h	nours at 200°F 7.5
		7G Electrical Connector

7.03	which, if combined, would treated before emission from one process type,	instructions, provide a process block flat and emission points that contain the last of the last fact into the environment. If all such emistrovide a process block flow diagram usiful such emissions are released from more block flow diagram showing each process	listed substance and lity emissions if not silved are released ing the instructions in than one process
t <u>_</u> 1 čaī	Process type	Not Applicable (NA)	
		•	

[_]	Process type	Polyure	ethane Molding		
	Unit Operation ID Number	Typical Equipment Type	Operating Temperature Range (°C)	Operating Pressure Range (mm Hg)	Vessel Compositio
	7.1	<u>Gram Scales</u> Stainless	Room_Temp. (RT)	Atmospheric (ATM)	
	7.2	Steel Spatula	RT	ATM	Stainless Steel
	7.3	Syringe	RT	ATM	Plastic
	7.4	Mold	RT	ATM	Aluminum Stainless
	<u>_7.5</u>	Oven	_200°F	ATM	Steel
Not Ap	plicable (NA)	NA	NA	<u>NA</u>	NA
	NA	NA	NA	NA	NA
	NA	NA NA	NA	NA	NA
•	<u>NA</u>	NA	NA	NA	NA
	NA	NA	<u>NA</u>	NA	NA
			<i>;</i>		
			·		,
				•	
		•			

Process Stream ID Description Physical State Flow (kg/yr Weigh 60 grams of Part A into a paper cup.  Remove cup from scales and into the same paper cup.  OL 5.03  PC mix with spatula.  OL 5.03  TE Inject into mold.  OL 5.03  TE Inject into mold.  OL 5.03  Applicable (NA) NA NA NA  OL 5.03  Applicable (NA) NA NA NA  OL 5.03  Applicable at ambient temperature and pressure)  GC = Gas (condensible at ambient temperature and pressure)  SO = Solid SY = Sludge or slurry AL = Aqueous liquid OL = Organic liquid IL = Immiscible liquid (specify phases, e.g., 90% vater, 10% toluene)	_1		Dalement L. 1.1		
Stream ID Code Description Weigh 60 grams of Part A into a paper cup. Weigh 10.5 grams of Part B into the same paper cup. Remove cup from scales and mix with spatula.  7 C Inject into mold.  7 E Inject into mold.  7 G Move filled mold into oven. Molded unit moved to next assembly operation.  Applicable (NA)  NA  NA  NA  NA  NA  NA  NA  NA  NA		Process type	Polyurethane Molding		
ID Process Stream Description Physical State    Description Physical State   Flow (kg/ymax)					
Code    Description			Process Stream		Strass
Weigh 60 grams of Part A into a paper cup.  7 B into the same paper cup. Remove cup from scales and Remove cup from scales and OL 5.03  7 C mix with spatula. OL 5.03  7 D Insert into a 30 cc syringe. OL 5.03  7 E Inject into mold. OL 5.03  7 F Move filled mold into oven. Molded unit moved to next assembly operation. Solid 5.03  Applicable (NA) NA NA NA  NA  NA  NA  NA  NA  NA  NA		Code		Physical State	
Weigh 10.5 grams of Part B into the same paper cup.  Remove cup from scales and mix with spatula.  OL 5.03  DInsert into a 30 cc syringe.  OL 5.03  DInsert into mold.  OL 5.03  Applicable (NA) NA NA NA  NA  NA  NA  NA  NA  NA  NA  N		7 A		01	
Into the same paper cup.   OL   5.03			Weigh 10.5 grams of Part B	<u>UL</u>	4.28
7 C mix with spatula. OL 5.03  7 D Insert into a 30 cc syringe. OL 5.03  7 E Inject into mold. OL 5.03  7 F Move filled mold into oven. OL 5.03  7 G assembly operation. Solid 5.03  Applicable (NA) NA NA NA  **IUse the following codes to designate the physical state for each process stream:  GC = Gas (condensible at ambient temperature and pressure)  GU = Gas (uncondensible at ambient temperature and pressure)  SO = Solid SY = Sludge or slurry  AL = Aqueous liquid  OL 01 5.03  **NA NA N			into the same paper cup.	OL	5.03
7 D Insert into a 30 cc syringe. OL 5.03  7 E Inject into mold. OL 5.03  7 F Move filled mold into oven. OL 5.03  7 G assembly operation. Solid 5.03  Applicable (NA) NA NA NA  1 Use the following codes to designate the physical state for each process stream:  GC = Gas (condensible at ambient temperature and pressure)  GU = Gas (uncondensible at ambient temperature and pressure)  SO = Solid SY = Sludge or slurry  AL = Aqueous liquid  OL = Organic liquid		7 C	mix with spatula	OL.	F 03
7 E Inject into mold. OL 5.03  7 F Move filled mold into oven. OL 5.03  Molded unit moved to next assembly operation. Solid 5.03  Applicable (NA) NA NA NA  **IUse the following codes to designate the physical state for each process stream:  GC = Gas (condensible at ambient temperature and pressure).  GU = Gas (uncondensible at ambient temperature and pressure)  SO = Solid  SY = Sludge or slurry  AL = Aqueous liquid  OL 5.03				<u>OL</u>	5.03
The state of the s		7 D	Insert into a 30 cc syringe.	OL	5.03
Molded unit moved to next assembly operation.  NA  NA  NA  NA  Solid 5.03  Applicable (NA)  NA  NA  NA  NA  CC = Gas (condensible at ambient temperature and pressure)  GU = Gas (uncondensible at ambient temperature and pressure)  SO = Solid SY = Sludge or slurry  AL = Aqueous liquid  OL = Organic liquid		<u>7 E</u>	Inject into mold.	OL	5.03
Applicable (NA)  NA  NA  NA  NA  NA  NA  NA  NA  NA		_7 F	Move filled mold into oven.	OL	5.03
Applicable (NA)  NA  NA  NA  NA  NA  NA  NA  NA  NA		7 G	Molded unit moved to next	Solid	F 02
Use the following codes to designate the physical state for each process stream:  GC = Gas (condensible at ambient temperature and pressure).  GU = Gas (uncondensible at ambient temperature and pressure)  SO = Solid  SY = Sludge or slurry  AL = Aqueous liquid  OL = Organic liquid	_	•		3011u	5.03
GC = Gas (condensible at ambient temperature and pressure). GU = Gas (uncondensible at ambient temperature and pressure) SO = Solid SY = Sludge or slurry AL = Aqueous liquid OL = Organic liquid	ot .	Applicable (NA)	NA	NA	NA
The Immisciple liquid (specify phases, e.g., 90% vater, 10% toluene)		lise the following	ing codes to designate the physic		
		GC = Gas (conde	ensible at ambient temperature an	d pressure)·	•
		GC = Gas (conde GU = Gas (uncor SO = Solid SY = Sludge or AL = Aqueous li OL = Organic li	ensible at ambient temperature and idensible at ambient temperature slurry equid	d pressure) · and pressure)	
		GC = Gas (conde GU = Gas (uncor SO = Solid SY = Sludge or AL = Aqueous li OL = Organic li	ensible at ambient temperature and idensible at ambient temperature slurry equid	d pressure) · and pressure)	
		GC = Gas (conde GU = Gas (uncor SO = Solid SY = Sludge or AL = Aqueous li OL = Organic li	ensible at ambient temperature and idensible at ambient temperature slurry equid	d pressure) · and pressure)	

_	Process ()	pe Polyuret	nane Molding		
	a.	<b>b.</b>	с.	d.	е.
	Process Stream ID Code	Known Compounds	Concentrations <sup>2,3</sup> (% or ppm)	Other Expected Compounds	Estimated Concentrations (% or ppm)
	7 A	2, 4-Toluene diisocyanate Polyurethane	15% (E)(W)	Not Applicable (NA)	NA
		prepolymer 2,4-Toluene	_Balance(E)(W)	<u>NA</u>	NA
	<b>7</b> B	diisocyanate Polyurethane	12.7%(E)(W)	NA	NA NA
		prepolymer	Balance(E)(W)	NA	NA
	7 C	2,4-Toluene diisocyanate	12.7%(E)(W)	NA	NA
		Polyurethane prepolymer	Balance(E)(W)	NA NA	NA
_	7 D	2,4-Toluene diisocyanate	12.7%(E)(W)	NA	NA
		Polyurethane prepolymer	_Balance(E)(W)	NA	NA
	7 E	2, 4-Toluene diisocyanate	12.7%(E)(W)	NA	NA
	·	Polyurethane prepolymer	Balance(E)(W)	NA	NA
	7 F	2, 4-Toluene diisocyanate	12.7%(E)(W)	NA	NA
-		Polyurethane prepolymer	Balance(E)(W)	NA ·	NA
)6 (	continued b	pelov			
	7 G	Polymerized polyurethane	100	NA	NA
				*	

<sup>1</sup>For each additive package introduced into a process stream, specify the compounds that are present in each additive package, and the concentration of each component Assign an additive package number to each additive package and list this number in column b. (Refer to the instructions for further explanation and an example. Refer to the glossary for the definition of additive package.)

Additive ackage Number	Components of Additive Package	Concentrations(% or ppm)
1	Not Applicable (NA)	NA
•	NA NA	NA
	NA	NA
2	NA NA	NA
	NA	NA
	NA	NA
3	NA	NA
•	NA	NA
•	NA	NA
4	NA	NA
	NA	NA
	NA	NA
5	NA	NA
	NA	NA
	NA	NA

<sup>&</sup>lt;sup>2</sup> U

- A

- V = Volume
- V = Veight

Use the following codes to designate how the concentration was measured:

<sup>[ ]</sup> Mark (X) this box if you attach a continuation sheet.

SECTION 8	RESIDUAL	TREATMENT	GENERATION,	CHARACTERIZATION,	TRANSPORTATION,	AND
	MANAGEMEN	ari .				

#### General Instructions:

For questions 8.04-8.06, provide a separate response for each residual treatment block flow diagram provided in question 8.01, 8.02 or 8.03. Identify the process type from which the information is extracted.

For questions 8.05-8.33, the Stream Identification Codes are those process streams listed in either the Section 7 or Section 8 block flow diagrams which contain residuals for each applicable waste management method.

For questions 8.07-8.33, if residuals are combined before they are handled, list those Stream Identification Codes on the same line.

Questions 8.09-8.33 refer to the waste management activities involving the residuals identified in either the Section 7 or Section 8 block flow diagrams. Not all Stream Identification Codes used in the sample answers (e.g., for the incinerator questions) have corresponding process streams identified in the block flow diagram(s). These Stream Identification codes are for illustrative purposes only.

For questions 8.11-8.33, if you have provided the information requested on one of the EPA Office of Solid Waste surveys listed below within the three years prior to your reporting year, you may submit a copy or reasonable facsimile in lieu of answering those questions which the survey addresses. The applicable surveys are: (1) Hazardous Waste Treatment, Storage, Disposal, and Recycling Survey; (2) Hazardous Waste Generator Survey; or (3) Subtitle D Industrial Facility Mail Survey.

|--|

8.01 CBI	In accor	dance with the escribes the tre	instructions, eatment process	provide as used for	residual tre	eatment block entified in	flow diagra question 7.0
[_]	Process	type	Not Applicab	ole (NA)			
		·					
		·					
		•					
				1		•	
							i.
							•
		·					
		•					
_ <sub>]                                    </sub>	lark (X)	this box if you	u attach a con	tinuation	sheet.		

## PART B RESIDUAL GENERATION AND CHARACTERIZATION

[_]	Process	type	<u>Not A</u>	Applicable (Na	A)		
	a.	b.	с.	d.	е.	f.	g.
	Stream ID Code	Type of Hazardous Waste	Physical State of Residual <sup>2</sup>	Known Compounds <sup>3</sup>	Concentra- tions (% or ppm) 4,5,6	Other Expected Compounds	Estimated Concen- trations (% or ppm)
	NA_	NA	<u>NA</u>	NA	NA NA	NA NA	NA
			NA	NA	<u>NA</u>	NA	NA
			<u>NA</u>	NA	NA	NA	NA NA
			NA NA	NA	<u>NA</u>	NA	NA
	NA	NA	NA	NA	NA	NA	NA NA
			<u>NA</u>	NA	<u>NA</u>	NA	NA
			NA	NA	NA	NA_	NA
			<u>NA</u>	NA	<u>NA</u>	NA	<u>NA</u>
	NA_	NA	NA_	NA	NA	NA NA	NA
			NA	NA	NA	NA	NA
			NA	NA	NA	NA	NA
			NA	NA	NA	NA NA	NA
	NA _	NA	NA	NA	NA	NA	NA
			NA	NA	NA	<u>NA</u>	NA
			NI A	NA NA	NA	NA	NA
			<u>NA</u>	11/			

```
'8.05* (continued)
       <sup>1</sup>Use the following codes to designate the type of hazardous waste:
        I = Ignitable
        C = Corrosive
        R = Reactive
        E = EP toxic
        T = Toxic
        H = Acutely hazardous
       <sup>2</sup>Use the following codes to designate the physical state of the residual:
        GC = Gas (condensible at ambient temperature and pressure)
        GU = Gas (uncondensible at ambient temperature and pressure)
        SO = Solid
        SY = Sludge or slurry
        AL = Aqueous liquid
        OL = Organic liquid
        IL = Immiscible liquid (specify phases, e.g., 90% water, 10% toluene)
 8.05 continued below
[ ] Mark (X) this box if you attach a continuation sheet.
```

<sup>3</sup>For each additive package introduced into a process stream, specify the compounds that are present in each additive package, and the concentration of each component Assign an additive package number to each additive package and list this number in column d. (Refer to the instructions for further explanation and an example. Refer to the glossary for the definition of additive package.)

Additive <u>Package Number</u>	Components of Additive Package	Concentrations (% or ppm)
<u> </u>	Not Applicable (NA)	NA
	NA	NA
	NA	NA
2	NA	NA
	NA	NA
	NA	NA
3	NA	NA
	NA	NA
	NA	NA
4	NA	NA
	NA	NA
	NA	. <u>NA</u>
5	NA .	NA
	NA .	NA
	NA	NA
A = Analytical result E = Engineering judges		
continued below		<del></del>
Mark (X) this box if yo		

٥	.05	(con	٠	in	110	ď١
о.	. UD	(con	ι	7 11	ue	u,

 $^5\text{Use}$  the following codes to designate how the concentration was measured:

V = Volume

W = Weight

<sup>6</sup>Specify the analytical test methods used and their detection limits in the table below. Assign a code to each test method used and list those codes in column e.

<u>Code</u>	Method	Detection Limi (± ug/l)
1	Not Applicable (NA)	NA
	NA	NA
3	NA	NA
4	NA	NA
5	NA	NA
6	NA	NA

|--|--|

_1	Process	type	· · · Not	Applicable (I	NA)			
	a. Stream ID Code	b. Waste Description Code	Management Method Code	d. Residual Quantities (kg/yr)	Mana of Resi	gement dual (%) Off-Site	f. Costs for Off-Site Management (per kg)	g. Changes Manageme _Methods
	_NA_	NA	NA	NA	NA_	NA	NA	NA
			NA	NA	NA_	NA	NA	NA
			<u>NA</u>	NA	NA	<u>NA</u>	<u>NA</u>	NA
			NA	NA	NA	NA	NA_	NA
	NA	<u>NA</u>	<u>NA</u>	NA	NA	NA	NA	NA_
			NA	NA	NA	NA_	NA	NA
	•	•	NA	NA	NA	NA	NA	NA
			<u>NA</u>	NA	NA	NA	NA	NA
	<u>NA</u>	NA_	NA_	NA	NA	NA	NA	_NA
			<u>NA</u>	NA	NA	NA	<u>NA</u>	<u>NA</u>
			NA	NA	NA	NA	NA	NA
			NA	NA	NA_	NA	<u> NA</u>	NA_
	NA	NA	NA	NA	NA	NA	NA	NA_
			NA	NA	NA	_NA	NA	NA_
		. ,	NA	NA	NA	NA	<u>NA</u>	NA
			NA	<u>NA</u>	NA	NA	NA	NA_
1	Use the	codes provid	ded in Exhil		esignate esignate	the waste	descriptions	 s s

## WASTE DESCRIPTION CODES

These waste description codes were developed specifically for this survey to supplement the descriptions listed with the RCRA and other waste codes. (These waste description codes are not regulatory definitions.)

# WASTE DESCRIPTION CODES FOR HAZARDOUS WASTE DESCRIBED BY A SINGLE RCRA F. K. P. OR U WASTE CODE

- 401 Spent solvent (F001-F005 K086)
- 402 Other proship round (F001-F005, KOSS) 403 Still bottom - F001-F005, <086)
- 404. Other organic studge (F001-F005, K066)
- A05. Wastewater or aqueous mixture
- 406 Contaminated soil or cleanup residue
- AUT. Other Flor K waste, exactly as described:
- A08 Concentrated off-spec or discarded product
- 409 Empty containers
- Exactly as described imeans that the waste matches the description of the RCRA waste code
- A10 incinerator ash
- A11 Solidified treatment residue
- A12 Other treatment residue specify in Facility Notes
- A13. Other untreated waste ispecify in Faculty Notes )

INORGANIC LIQUIDS-Waste that is primarily norganic and highly fluidile gli aquedus), with ow suspended norganic solids and low organic

- 301 Aqueous waste with low solvents
- 302 Adueous waste with low other toxic manica
- 803 Spent acid with metals
- 304 Spent acid without metals
- 305 Acidic aqueous waste
- 906 Caustic solution with metals but no CVENIGES
- 807 Caustic solution with metals and cyanides
- 508. Caustic solution with cyanides but no **THELBUS**
- 809 Spent caustic
- 810 Caustic aqueous weste
- 811 Aqueous waste with reactive suifides
- B12 Aqueous waste with other reactives (e.g., ATDIORIVES)
- 813 Other aqueous waste with high dissolved SOUGS
- Other adueous waste with fow dissolved ionds
- B15 Scrubber water
- B16 Leachare
- 317 Waste riquid mercury
- 318 Other norganic liquid (specify in Facility Notes 2

INORGANIC SLUDGES-Waste that is primarly inorganic, with moderate-to-high was content and low organic content; pumpable.

- 819 Lime sludge without metals
- 820 Lime sludge with metale/metal hydroxide SILUDGE
- Wastewater treatment studge with toxic OFFICE
- 822 Other was OWEGO TREATMENT SE
- 823 Untreased planne studge without cyanides
- 824 Untreased plating studge with cyanides 825 Other studge with cyanides
- 828 Sludge with reactive suffices 827 Sludge with other reactives
- 628 Degreesing studge with metal scale or
- hings 829 Air pollution control device sludge (e.g.,
- fly ash, wat scrubber studge) 830 Sediment or lagoon dragout contaminated
- with organics
- 831 Sediment or lagoon dragout contaminated with inorganics only

- **B32** Drilling mud
- Aspestos siurry or sludge 833
- Chloride or other brine sludge 834
- 835 Other inorganic sludge (specify in Facility Notes

INORGANIC SOLIDS—Waste that is primarily inorganic and solid, with low organic content and low-to-moderate water content; not Qu/MD4016

- 836 Soil contaminated with organics
- **B37** Soil contaminated with inorganics only 834 Ash, sleg, or other residue from inciner-
- ation of watter 839 Other "dry" ash, sleg, or thermal readus
- "Dry" lime or metal hydroxide solids 840 chemically "fized"
- 841 "Dry" time or metal hydraxide solids not "Dexi"
- 842 Metal scale, filings, or scrap
- Empty or crushed metal drums or con-'ainers
- Batteries or battery parts, casings, cores 845
- Spent solid filters or adsorbents 846 Aspestos solids and debns
- 847 Metal-cyanide saits/chemicals
- Reactive cyanide salts/chemicals 848
- 848 Reactive sulfide salts/chemicals 850
- Other reactive saits/chemicals 851 Other metal safe/chemicals
- 842 Other waste inorganic chamicals 853 Lab sects of old chemicals only
- LAD DECIS of debns only
- 856 Mized Iab packs 866 Other inorganic solids (specify in
- Fecility Notes")

INORGANIC GASES—Waste that is primarily inorganic with a low organic content and is a gas at atmospheric pressure.

857 Inorganic gases

ORGANIC LIQUIOS—Waste that is primarily organic and is highly fluid, with low inorganic solids content and low-to-moderate water comen

- 850 Concentrated solvent-water solution
- 859 Halogenated (e.g. chlonnated) solvent
- 860 Nonhalogenated solvent

- 861 Halogenated/nonnalogenated scivent mixture
- Oil-water emulsion or mixture
- Waste oil
  - Concentrated aqueous solution of other OFGENICS
- Concentrated phenolics
  - Organic paint, ink, lacquer, or varnish
- Adheerves or exposies
- 844 Paint thinner or petroleum distillates
- 869 Reactive or polymenzable organic figuid
- Other organic liquid (specify in Facility

ORGANIC SLUDGES—Waste that is primarily organic, with low-to-moderate inorganic solids coment and water coment; pumpable.

- Still bottoms of halogenated (e.g., chion
  - id) solvents or other organic liquids Stiff bottoms of nonhalogenated
  - solvents or other organic riquids
- 873 Oily sludge
- 874 Organic paint or his studge
- 875 Reactive or polymerizable organics
- 878 Resins, tars, or tarry studge 877
- Biological treatment sludge 678
  - Sewage or other untreated biological siudge
- Other organic studge (specify in 270 Facility Notes 1)

ORGANIC SOLIDS—Waste that is primarily organic and solid, with low-to-moderate inorganic coment and water content, not **OLUM** 

- 886 Halogenesed pasticide solid
- 861 Nonhelogenated pesticide solid
- Solid reeins or polymerized organics
- Sport carbon
- Reactive organic solid
  - Empty fiber or plastic containers
- Lab packs of old chemicals only
- Lab packs of debris only
- Mixed lab packs
- Other helogeneted organic solid
  - Other nonhalogenated organic solid

ORGANIC GASES—Waste that is primarily organic with low-to-moderate inorganic content and is a gas at etmospheric pressure.

801 Organic cases

# EXHIBIT 8-2. (Refers to question 8.06(c))

### MANAGEMENT METHODS

	MANAGEMENT	METH	IODS
MI	= Discharge to publicly owned	Reco	overy of solvents and liquid organics
	vastevater treatment works	for	reuse
M2	. Discharge to surface water under	1SR	Fractionation '
	NPDES		Batch still distillation
<b>H3</b>	<ul> <li>Discharge to off-site, privately</li> </ul>	3SR	Solvent extraction
	owned vastevater treatment works	→SR	Thin-film evaporation
<b>#4</b>	= Scrubber: a) caustic; b) water;	SSR	Filtration
	c) other	6SR	Phase separation
M5	<pre>went to: a) atmosphere: b) flare:</pre>	7 S.R	Dessication
	c) other (specify)	8SR	Other solvent recovery
М6	* Other (specify)		
		Reco	every of metals
TKE	ATHERT AND RECYCLING	1 MR	Activated carbon (for metals
<b>.</b>	damana dama daharan 1900 da		recovery)
	ineration/thermal treatment	2MR	Electrodialysis (for metals
11		•	recovery)
21	The tall of the terminal termi	3MR	Electrolytic metal recovery
31		4MR	Ion exchange (for metals recovery)
	unit	5MR	Reverse osmosis (for metals
4 I	Tvo stage		recovery)
	Fixed hearth	6MR	Solvent extraction (for metals
61			recovery)
71		7MR	Ultrafiltration (for metals
81			recovery)
91	Fume/vapor	8MR	Other metals recovery
101	Pyrolytic destructor		
111	Other incineration/thermal		evater Treatment
	treatment	Aft∈	r each vastevater treatment type
			listed below (1WT - 66WT) specify
	se as fuel		a) tank; or b) surface impoundment
	Cement kiln		(i.e., 63WTa)
ZRF	Aggregate kiln		
JRF	Asphalt kiln	Equa	lization
	Other kiln	lut	Equalization
	Blast furnace		
6RF		Cyan	ide oxidation
7RF		2VT	Alkaline chlorination
_	furnace	3VT	Ozone
	Coke oven	4UT	Electrochemical
9RF		SVT	Other cyanide oxidation .
	Industrial boiler		•
11RF	Utility boiler	Gene	ral oxidation (including
12RF	Process heater		nfection)
13RF	Other reuse as fuel unit		Chlorination
		7 <b>VT</b>	
Fuel	Blending	SWT	
1FB		9VT	=
		741	other Reneral Oxidation
	dification	Chem	ical precipitation <sup>1</sup>
15	Cement or cement/silicate processes		Line
25	Possolanic processes		Sodium hydroxide
3\$	Asphaltic processes		Soda ash
45	Thermoplastic techniques		Sulfide
55	Organic polymer techniques		
65	Jacketing (macro-encapsulation)	1441	Other chemical precipitation
7 <b>S</b>	Other solidification	Ch	mium reduction
	449447746877011		Mium reduction 'Sodium bigulfita

Chromium reduction 15WT Sodium bisulfite 16WT Sulfur dioxide

#### MANAGEMENT METHODS

17VT Ferrous sulfate 18VT Other chromium reduction

Complexed metals treatment (other than chemical precipitation by pH adjustment)
19WT Complexed metals treatment

Emulsion breaking 20WT Thermal 21WT Chemical 22WT Other emulsion breaking

Adsorption
23VT Carbon adsorption
24VT Ion exchange
25VT Resin adsorption
26VT Other adsorption

Stripping 27VT Air stripping 28VT Steam stripping 29VT Other stripping

Evaporation
30WT Thermal
31WT Solar
32WT Vapor recompression
33WT Other evaporation

Filtration
34VT Diatomaceous earth
35VT Sand
36VT Multimedia
37VT Other filtration

Sludge devatering
38VT Gravity thickening
39VT Vacuum filtration
40VT Pressure filtration (belt, plate and frame, or leaf)
41VT Centrifuge
42VT Other sludge devatering

Air flotation
43VT Dissolved air flotation
44VT Partial aeration
45VT Air dispersion
46VT Other air flotation

Oil skimming 47VT Gravity separation 48VT Coalescing plate separation 49VT Other oil skimming

Other liquid phase separation 50VT Decanting 51VT Other liquid phase separation

Biological treatment
52WT Activated sludge
53WT Fixed film-trickling filter
54WT Fixed film-rotating contactor
55WT Lagoon or basin, aerated
56WT Lagoon, facultative
57WT Anaerobic
58WT Other biological treatment

Other vastevater treatment
59VT Vet air oxidation
60VT Neutralization
61VT Nitrification
62VT Denitrification
63VT Flocculation and/or coagulation
64VT Settling (clarification)
65VT Reverse osmosis
66VT Other vastevater treatment

#### OTHER VASTE TREATMENT

1TR Other treatment 2TR Other recovery for reuse

#### ACCUMULATION

1A Containers 2A Tanks

#### STORAGE

1ST Container (i.e., barrel, drum)
2ST Tank
3ST Waste pile
4ST Surface impoundment
5ST Other storage

#### DISPOSAL

1D Landfill

2D Land treatment

3D Surface impoundment (to be closed as a landfill)

4D Underground injection well

Chemical precipitation is a treatment operation whereby the pH of a waste is adjusted to the range necessary for removal (precipitation) of contaminants. However, if the pH is adjusted solely to achieve a neutral pH, THE OPERATION SHOULD BE CONSIDERED NEUTRALIZATION (60VT).

<u>CBI</u>	your process t Not Applica	ble (NA) [N Comb Ch		to respond t Loca Temp	o this questic tion of erature nitor	In Com	ence Time abustion (seconds)
	Incinerator	Primary	Secondary	Primary	Secondary	<u>Primary</u>	Secondary
	1						•
	2				4244		
	3						****
			of Solid Wast ropriate resp		s been submit	ted in lieu	of response
	Yes	• • • • • • • • • • • •	• • • • • • • • • • • • • • • • • • • •	• • • • • • • • • • • • •	• • • • • • • • • • • • • • • • • • • •		1
	No	• • • • • • • • • •		• • • • • • • • • • •			2
8.23 CBI	Complete the interest are used on-sitteet treatment block	te to burn	the residuals				
	are used on-si	te to burn	the residuals ram(s). Air Po Control				residual of s Data
<u>CBI</u>	are used on-sitreatment bloc	te to burn	the residuals ram(s). Air Po Control	ollution l Device <sup>1</sup> cable (NA)		ess block or Types Emission Avail	residual of s Data
<u>CBI</u>	are used on-sitreatment block  Incinerator	te to burn	the residuals ram(s).  Air Po Control  Not Applic	ollution l Device  cable (NA)		ess block or Types Emission Avail	residual of s Data
<u>CBI</u>	Incinerator  2  Indicate	te to burn ck flow diag	the residuals ram(s).  Air Po Control  Not Applic	ollution l Device  cable (NA)  A		Types Emission Avail NA NA	residual  of s Data able
<u>CBI</u>	Incinerator  1 2 3 Indicate by circle	te to burn k flow diag if Office ing the app	Air Po Control  Not Applic  Not Solid Wast ropriate resp	ollution l Device  cable (NA)  A  te survey has	in your proc	Types Emission Avail NA NA NA	of s Data able
<u>CBI</u>	Incinerator  1 2 3 Indicate by circl Yes	te to burn k flow diag if Office ing the app	Air Po Control  Not Applic  Not Solid Wast ropriate resp	ollution l Device  cable (NA)  A  te survey has ponse.  A	s been submit	Types Emission Avail NA NA NA ted in lieu	of s Data able of response
<u>CBI</u>	Incinerator  1 2 3 Indicate by circl Yes	te to burn k flow diag if Office ing the app	Air Po Control  Not Applic  Not Solid Wast ropriate resp	ollution l Device  cable (NA)  A  te survey has ponse.  A	s been submit	Types Emission Avail NA NA NA ted in lieu	of s Data able of response

Questions 9.03-9.25 apply only to those processes and workers involved in manufacturing or processing the listed substance. Do not include workers involved in residual waste treatment unless they are involved in this treatment process on a regular basis (i.e.,	·	SECTION 9	ORKER EXPOSURE			
processing the listed substance. Do not include workers involved in residual waste treatment unless they are involved in this treatment process on a regular basis (i.e.,	General Instructions:					
	Questions 9.03-9.25 apply only to those processes and workers involved in manufacturing or processing the listed substance. Do not include workers involved in residual waste treatment unless they are involved in this treatment process on a regular basis (i.e., exclude maintenance workers, construction workers, etc.).					

[\_\_] Mark (X) this box if you attach a continuation sheet.

# PART A EMPLOYMENT AND POTENTIAL EXPOSURE PROFILE

9.01	Mark (X) the appropriate column to indicate whether your company maintains records on the following data elements for hourly and salaried workers. Specify for each data
CBI	element the year in which you began maintaining records and the number of years the records for that data element are maintained. (Refer to the instructions for further explanation and an example.)

_	Data Element	Data are Ma Hourly Workers	intained for: Salaried Workers	Year in Which Data Collection Began	Number of Years Records Are Maintained
l	Date of hire	X	X	1958	Indefinite
	Age at hire	X	X	1958	Indefinite
	Work history of individual before employment at your facility (Company name	X	X	1958	Indefinite
1	only) Sex	X	X	1958	Indefinite
	Race	X	X	1958	_Indefinite
	Job titles	X	X	1961	Indefinite
	Start date for each job title	X	x	1961	Indefinite
	End date for each job title	<u> </u>	<u> </u>	1961	Indefinite
	Work area industrial hygiene monitoring data	X	Not Applicable (NA)	1979	Indefinite
	Personal employee monitoring data	X	NA	1979	Indefinite
l	Employee medical history	UK_	X	1974	Indefinite
le-employ	ment physical w/history, annu Employee smoking history	NA_	NA	NA	_NA
	Accident history	_X	_X	1970	Indefinite
•	(Work related only) Retirement date	X	X	1960	<u>Indefinite</u>
	Termination date	X	X	1958	Indefinite
	Vital status of retirees	<u> </u>	<u>X</u>	1960	<u>Indefinite</u>
	Cause of death data	X	<u> </u>	1960	Indefinite
1	(Active employees only)				

 $[\ ]$  Mark (X) this box if you attach a continuation sheet.

9.02 CBI	In accordance with the in which you engage.	e instructions, comple	te the following to	able for e	ach activity
[_]	a.	b.	c.	d.	e.
	Activity	Process Category	Yearly Quantity (kg)		Total Worker-Hour
	Manufacture of the listed substance	Enclosed	Not Applicable ( NA	NA) NA	NA
		Controlled Release	<u>NA</u>	<u>NA</u>	NA
		0pen	NA	NA	NA
	On-site use as reactant	Enclosed	NA	NA	NA
		Controlled Release	0.7545	3	14
		0pen	NA	<u>NA</u>	NA
	On-site use as nonreactant	Enclosed	NA	<u>NA</u>	NA
		Controlled Release	NA	<u>NA</u>	NA
		0pen	NA	<u>NA</u>	NA
	On-site preparation of products	Enclosed	NA	<u>NA</u>	NA
		Controlled Release	NA	NA_	NA
		0pen	<u>NA</u>	NA	NA

Provide a descriptive job title for each labor category at your facility the encompasses workers who may potentially come in contact with or be exposed listed substance.				
•				
Labor Category	Descriptive Job Title			
A	Molder/Encapsulator			
В	Not Applicable (NA)			
С	NA			
D	NA			
E	NA			
F	NA			
G	NA			
H	NA			
I.	. NA			
J	NA			

.04	In accordance with indicate associated	the instructions, provide your process block flow diagram(s work areas.
I		
_]	Process type	Polyurethane Molding
	EN9, Part A/EN9 O	ZR, Part A, 60 grams ———
		7A
	EN9, Part B/EN9 02	ZR, Part B, 10.5 grams ————————————————————————————————————
		Weigh each component into a paper cup on grams scales 7.1
		7C
		Mix with a stainless steel spatula 7.2
		7D
		Insert into a 30cc syringe 7.3
	1	7E
		Inject into the mold containing the connector 7.4
		7F
		Cure in oven for four hours at 200°F 7.5
		7G
		Electrical Connector

<sup>[ ]</sup> Mark (X) this box if you attach a continuation sheet.

	may potentially co additional areas n	us work area(s) shown in question 9.04 that encompass workers who me in contact with or be exposed to the listed substance. Add any ot shown in the process block flow diagram in question 7.01 or his question and complete it separately for each process type.
CBI	B	
[_]	rrocess type	· · Polyurethane Molding
	Work Area ID	Description of Work Areas and Worker Activities
	1	(Workers encapsulate motors and Encapsulation Dept. mold connectors)
	2	Materials Testing Laboratory (Engineers working with material)
	3	Not Applicable (NA)
	4	NA
	5	NA
	6	NA NA
	7	NA
	8	NA .
	9	NA
	10	NA NA

	•	<u>-</u>	y for each process	type and work a	rea.	
Lá	ibor egory	Number of Workers Exposed	Mode of Exposure (e.g., direct skin contact)	Physical State of Listed Substance	Average Length of Exposure Per Day <sup>2</sup>	Number o Days per Year Exposed
A		3	direct skin contac	t <u>OL</u>	A	20 - 25
A		3	inhalation	<u> </u>	A	20 - 25
	Applica A	able (NA) NA	NA	NA	NA NA	NA
N	<u>A</u>	NA	NA	NA	NA	NA
N	Α	NA	NA	NA	NA	NA
N	Α	<u>NA</u>	NA	NA	NA	NA
N	<u>A</u>	NA	NA	NA	NA	NA
<u> </u>	<u>A</u>	NA	NA	NA	NA	NA
N	Α	NA	NA	NA	NA	NA
N	<u>A</u>	NA	NA	<u>NA</u>	<u>NA</u>	NA
GC = GU = SO =  2 Use A = B =	Gas ( tempe Gas ( tempe inclu Solid the fol freater exceedi Greater	f exposure:  condensible a  rature and pr  uncondensible  rature and pr  des fumes, va	essure) AI at ambient OI essure; II pors, etc.)  to designate average tes, but not E r, but not	<pre>% = Sludge or sl % = Aqueous liqu % = Organic liqu % = Immiscible l % (specify pha 90% water, 1</pre>	urry id id iquid ses, e.g., 0% toluene) sure per day: 2 hours, but rours 4 hours, but rours	not

CBI	area.		
[_]	Process type	Polyurethane Molding	
	Work area	·····	1
	Labor Category	8-hour TWA Exposure Level (ppm, mg/m <sup>3</sup> , other-specify)	15-Minute Peak Exposure Leve (ppm, mg/m³, other-specify)
	A (NA)	UK	<u> </u>
	Not Applicable (NA) NA	NA	NA
	NA	NA	NA
	NA	NA	NA
	NA	NA	NA
	NA	NA	NA
	NA	NA	NA
	NA	NA NA	NA
	NA	NA	NA NA
	NA	NA NA	NA

<u>I</u> -,							
_]	Sample/Test	Work Area ID	Testing Frequency (per year)	Number of Samples (per test)	Who Samples 1	Analyzed In-House (Y/N)	Number of Years Record Maintained
	Personal breathing zone	2 Not Appl	2 (total) icable (NA)	2 (total)	D	N	Indefinite
	General work area (air)	NOT Appl	NA NA	NA	<u>NA</u>	NA	NA NA
	Wipe samples	NA	NA	NA	NA_	NA	NA NA
	Adhesive patches	NA_	NA	NA	<u>NA</u>	NA_	NA
	Blood samples	NA_	NA	_NA	<u>NA</u>	NA	NA
	Urine samples	NA_	NA	<u>NA</u>	NA	NA	NA
	Respiratory samples	NA_	NA	NA	NA_	NA	NA NA
	Allergy tests	<u>NA</u>	NA	_NA	<u>NA</u>	NA	NA
	Other (specify)						
	Personal breathing z	o <u>ne 1</u>	1 (total)	1 (total)	D	Y	Indefinite
	Other (specify)						
	NA	NA_	NA	NA	NA_	NA	NA
	Other (specify)						
	NA	NA	NA	NA	NA	NA_	NA

CBI	For each sample type identified in question 9.08, describe the type of sampling and analytical methodology used for each type of sample.									
[_]	Sample Type	<u>S</u>	ampling and Analytic							
	Personal breathing zo	ne <u>Absorbant Tu</u>		igh Performa Chromatograp	•					
	Personal breathing zo	ne <u>Direct Readin</u>	g Colorimetric Tube	(Draeger T	ube)					
	Not Applicable (NA)	Not Applicable (NA) NA								
	NA	NA								
	NA	NA								
9.10	If you conduct person specify the following				substance,					
<u>CBI</u>				Averaging						
[_]	Equipment Type <sup>1</sup>	<u>Detection Limit</u> <sup>2</sup>	Manufacturer Gilian Instrument	Time (hr)	Model Number					
	<u>D</u> .	0.01 A	Group	0.25	HFS113AUP					
	В	0.02 A	National Draeger	NA	6724501					
	NA	NA	NA	NA	NA					
	NA	NA	NA	NA	NA					
	NA	NA NA	NA	NA	NA NA					
	1 Use the following cook  A = Passive dosimeter  B = Detector tube  C = Charcoal filtrat:  D = Other (specify)  Use the following cook  E = Stationary monitor  G = Stationary monitor  H = Mobile monitoring  I = Other (specify)  2 Use the following cook	ion tube with pump Absorbent Tubes des to designate a president located within the located at play equipment (speci	(NITRO) with pum mbient air monitori work area facility ant boundary fy)	o ng equipment						
	A = ppm B = Fibers/cubic cent	B = Fibers/cubic centimeter (f/cc) C = Micrograms/cubic meter (μ/m³)								

<u>-</u> 1	Test Descr	intion	(week)	Frequency y, monthly, yearl	v. etc
_] ]		<u>iption</u>	(week1		y, etc.
	ot Applicable (NA)			NA	
	NA_			NA	
	NA			NA	
	NA			NA	
	NA	<del>,</del>		NA	
		·			

9.12 <u>CBI</u>	Describe the engineering conto the listed substance. Process type and work area.							
[_]	Process type Polyurethane Molding							
	Work area 1							
	Engineering Controls	Used (Y/N)	Year Installed	Upgraded (Y/N)	Year Upgraded			
	Ventilation:							
	Local exhaust	Y	1985	N	NA			
	General dilution Not A	Applicable (NA)	<u>NA</u>	NA	NA			
	Other (specify)							
	<u>NA</u>	<u>NA</u>	NA	NA	_NA			
	Vessel emission controls	<u>NA</u>	<u>NA</u>	NA	NA_			
	Mechanical loading or packaging equipment	NA	NA	NA	NA			
	Other (specify)							
	NA	NA	NA	NA	NA			

9.12 <u>CBI</u>	Describe the engineering to the listed substance. process type and work are	Photocopy this	ou use to reduce of question and comp	r eliminate wo lete it separa	rker exposure tely for each			
[_]	Process type	Polyuretl	nane Molding					
	Work area 2							
	Engineering Controls	Used (Y/N)	Year Installed	Upgraded (Y/N)	Year Upgraded			
	Ventilation:							
	Local exhaust	Y	1984	N	NA			
	General dilution	Not Applicable	(NA) NA	NA	NA			
	Other (specify)							
	NA	NA	NA	NA	NA			
	Vessel emission controls	NA	NA	NA	<u>NA</u>			
	Mechanical loading or packaging equipment	NA	NA	NA	NA			
	Other (specify)							
	NA	NA	NA	NA	NA			

the percomple	the listed substance. For each equipment or process modification described, stathe percentage reduction in exposure that resulted. Photocopy this question and complete it separately for each process type and work area.				
<u>-</u>	Process type Not Applicable (NA)				
Work a	Equipment or Process Modif		NA  Reduction in Worke Exposure Per Year (		
	NA	. I Cat I Oil	NA		
<del></del>	NA		NA		
	NA		NA NA		
	NA		NA		

9.14	Describe the personal protective and safety equipment that your workers wear or use in each work area in order to reduce or eliminate their exposure to the listed substance. Photocopy this question and complete it separately for each process type and work area.				
CBI	and work area.				
[_]	Process type	Polyurethane Molding	<u> </u>		
	Work area	•••••••		1	
			Wear or Use		
		Equipment Types	(Y/N)		
		Respirators	N		
		Safety goggles/glasses	<u> </u>		
		Face shields	<u> </u>		•
		Coveralls	N		
		Bib aprons	N		
		Chemical-resistant gloves	Y		
		Other (specify)	A		
			*		

9.14 <u>CBI</u>	Describe the personal protective and safety equipment that your workers wear or usin each work area in order to reduce or eliminate their exposure to the listed substance. Photocopy this question and complete it separately for each process that work area.						
<u>-</u>	Process type Polyurethane Molding						
	Work area 2						
		Equipment Types	Wear or Use (Y/N)				
		Respirators	N				
		Safety goggles/glasses	<u>Y</u>				
		Face shields	N				
		Coveralls	Y				
		Bib aprons	N				
		Chemical-resistant gloves	Y				
		Other (specify)					

9.15	process respirat tested,	ers use respirators who type, the work areas to fors used, the average and the type and freque it separately for each	where the respirat usage, whether or wency of the fit t	ors are us not the i	sed, the type respirators w	of ere fit
CBI						
[_]	Process	type Not	Applicable (NA)			
	Work Area	Respirator Type	Average Usage	Fit Tested (Y/N)	Type of Fit Test <sup>2</sup>	Frequency of Fit Tests (per year)
	NA	NA NA	NA	NA	NA	NA
•	<u>NA</u>	NA NA	NA	NA_	NA	NA
	NA_	NA	NA_	NA	_NA	NA
	<u>NA</u>	NA	NA	NA	_NA	NA
	E = Oth  Use the  QL = Qu  QT = Qu	e a year er (specify)  following codes to de alitative antitative  this box if you attack			t:	

9.19 CBI	Describe all of the work practices and administrative controls used to reduce or eliminate worker exposure to the listed substance (e.g., restrict entrance only to authorized workers, mark areas with warning signs, insure worker detection and monitoring practices, provide worker training programs, etc.). Photocopy this question and complete it separately for each process type and work area.  Process type Polyurethane Molding									
[_]										
	Work area			1						
	Hazard Communication T	raining per OSH	A Regulation_	1910.1200						
	Process type Not Work area		<u>NA</u>	3-4 Times						
	Havealtaning Tasks	Less Than		=						
	Housekeeping Tasks	Once Per Day	Per Day	Per Day	Times Per Da					
	Sweeping	Once Per Day NA	Per Day NA	Per Day	Times Per Da					
	Sweeping	Once Per Day  NA  NA	Per Day NA NA	Per Day NA NA	NA					
	Sweeping	Once Per Day NA	Per Day NA	Per Day	Times Per Da					

9.21	Do you have a written medical action plan for responding to routine or emergency exposure to the listed substance?	
	Routine exposure	
	Yes	
	No	2
	Emergency exposure	
	Yes	1
	No	2
	If yes, where are copies of the plan maintained?	
	Routine exposure: Not Applicable (NA)	
	Emergency exposure: NA	
9.22	Do you have a written leak and spill cleanup plan that addresses the listed substance? Circle the appropriate response.	,,,,,,,,
	Yes	1
	No	2
	If yes, where are copies of the plan maintained? NA	
	Has this plan been coordinated with state or local government response organizations Circle the appropriate response.	₃?
	YesNA	1
	NoNA	2
9.23	Who is responsible for monitoring worker safety at your facility? Circle the appropriate response.	
•	Plant safety specialist	1
	Insurance carrier	2
	OSHA consultant	3
	Other (specify)	4
[_]	Mark (X) this box if you attach a continuation sheet.	

## SECTION 10 ENVIRONMENTAL RELEASE

## General Instructions:

Complete Part E (questions 10.23-10.35) for each non-routine release involving the listed substance that occurred during the reporting year. Report on all releases that are equal to or greater than the listed substance's reportable quantity value, RQ, unless the release is federally permitted as defined in 42 U.S.C. 9601, or is specifically excluded under the definition of release as defined in 40 CFR 302.3(22). Reportable quantities are codified in 40 CFR Part 302. If the listed substance is not a hazardous substance under the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA) and, thus, does not have an RQ, then report releases that exceed 2,270 kg. If such a substance however, is designated as a CERCLA hazardous substance, then report those releases that are equal to or greater than the RQ. The facility may have answered these questions or similar questions under the Agency's Accidental Release Information Program and may already have this information readily available. Assign a number to each release and use this number throughout this part to identify the release. Releases over more than a 24-hour period are not single releases, i.e., the release of a chemical substance equal to or greater than an RO must be reported as a separate release for each 24-hour period the release exceeds the RQ.

For questions 10.25-10.35, answer the questions for each release identified in question 10.23. Photocopy these questions and complete them separately for each release.

10.0	1 Where is your facility located? Circle all appropriate responses.	
<u>CBI</u>		
[_]	Industrial area	1
	Urban area	2
	Residential area	3
	Agricultural area	4
	Rural area	5
	Adjacent to a park or a recreational area	6
	Within 1 mile of a navigable waterway	7
	Within 1 mile of a school, university, hospital, or nursing home facility	8
	Within 1 mile of a non-navigable waterway	9
	Other (specify)1	0

	is located) in terms of latitud (UTM) coordinates.	our facility (from cent le and longitude or Univ	ral point ersal Tra	where pro Insverse Me	ercader
	Latitude		037	08	′ 00
	Longitude		080	° 34	.' <u>40</u>
	UTM coordinates Zo	ne <u>NA</u> , Northi	ng <u>NA</u>	, Eastin	g <u>NA</u>
10.83	If you monitor meteorological of the following information. Not average annual precipitation  Predominant wind direction	Applicable (NA) [Not re question—	quired to	respond t	, provide to this inches/yea
10-04	Indicate the depth to groundwat  Depth to groundwater			this quest	
10.05 <u>CBI</u> [_]	For each on-site activity liste listed substance to the environ Y, N, and NA.)	ment. (Refer to the ins Envi	structions ronmental	s for a de: Release	finition of
<u>CBI</u>	listed substance to the environ	ment. (Refer to the ins Envir Air	structions ronmental Water	s for a de: Release	
<u>CBI</u>	listed substance to the environ Y, N, and NA.)	ment. (Refer to the ins Envi	structions ronmental Water	s for a de: Release	finition of
<u>CBI</u>	listed substance to the environ Y, N, and NA.)  On-Site Activity	ment. (Refer to the ins Envir Air Not Applicable (NA	ronmental Water	s for a de: Release	finition of
<u>CBI</u>	listed substance to the environ Y, N, and NA.)  On-Site Activity  Manufacturing	ment. (Refer to the ins Envir Air Not Applicable (NA NA	ronmental Water NA	s for a de: Release	finition of  Land  NA
<u>CBI</u>	listed substance to the environ Y, N, and NA.)  On-Site Activity  Manufacturing  Importing	ment. (Refer to the ins Envir Air Not Applicable (NA NA	ronmental Water NA	s for a de: Release	Land NA
<u>CBI</u>	listed substance to the environ Y, N, and NA.)  On-Site Activity  Manufacturing  Importing  Processing	Environment. (Refer to the instance of the ins	ronmental Water A) NA NA	s for a de: Release	Land NA NA NA
<u>CBI</u>	listed substance to the environ Y, N, and NA.)  On-Site Activity  Manufacturing  Importing  Processing  Otherwise used	Environment. (Refer to the instance of the ins	ronmental Water NA NA NA NA	s for a de: Release	Land NA NA NA NA NA
<u>CBI</u>	listed substance to the environ Y, N, and NA.)  On-Site Activity  Manufacturing  Importing  Processing  Otherwise used  Product or residual storage	Environment. (Refer to the instance of the ins	ronmental Water NA NA NA NA	s for a de: Release	Land NA NA NA NA NA NA

ID Code	Applicable (NA)  Control Technology  NA  NA  NA  NA  NA  NA  NA  NA  NA  N	Percent Efficience
	NA NA NA NA NA NA NA	NA NA NA NA NA NA NA NA NA
	NA NA NA NA NA NA	NA NA NA NA NA NA
	NA NA NA NA NA	NA NA NA NA
	NA NA NA	NA NA NA
	NA NA NA	NA NA
	NA NA	NA
	NA	
		NA
	N A	
	NA	NA
<u> </u>	NA	NA
	NA	NA

 $[\ \ ]$  Mark (X) this box if you attach a continuation sheet.

10.09 <u>CBI</u> []	Point Source Emissions Identify each emission point source containing the listed substance in terms of a Stream ID Code as identified in your process block or residual treatment block flow diagram(s), and provide a description of each point source. Do not include raw material and product storage vents, or fugitive emission sources (e.g., equipment leaks). Photocopy this question and complete it separately for each process type.									
		t Applicable (NA)								
	Point SourceID Code	Description of Emission Point Source								
	NA	NA NA								
	NA	NA NA								
	NA	NA								
	NA	NA								
	NA	NA								
	NA	NA								
	NA	NA								
	NA	NA								
	NA	NA								
	NA	NA NA								

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10.10	Emission Characteristics Characterize 10.09 by completing the following table.	the	emissions for	each Point	Source	ID Code	identified	in question
CBI		NO	Applicable	(NA)				
							Maximum	Maximum

<u></u>	Point Source ID Code	Physical State	Average Emissions (kg/day)	Frequency <sup>2</sup> (days/yr)	Duration <sup>3</sup> (min/day)	Average Emission Factor <sup>4</sup>	Maximum Emission Rate (kg/min)	Maximum Emission Rate Frequency (events/yr)	Maximum Emission Rate Duration (min/event)
	NA_	NA_	NA	NA	NA	NA	NA	NA	NA.
	NA_	_NA_	NA	NA	NA	NA	<u>NA</u>	NA	NA
	_NA_	NA_	NA	_NA	NA_	NA	NA_	NA_	NA
	NA_	NA_	NA	_NA	<u> </u>	NA	NA	NA	NA
	NA	<u>NA</u>	NA	NA	NA	NA	NA	NA	NA
	NA	NA_	NA	NA	NA_	NA.	NA	NA	NA
	NA	NA_	NA	NA	NA	NA	NA	NA	NA
	NA	NA	NA	_NA	NA	NA	NA	NA	NA
	NA_	NA_	NA	NA	NA	NA	NA	NA	NA NA
	NA	_NA_	NA	NA NA	NA	NA	NA	NA	NA
								1724	11/1

<sup>&</sup>lt;sup>1</sup>Use the following codes to designate physical state at the point of release:
G = Gas; V = Vapor; P = Particulate; A = Aerosol; O = Other (specify)

<sup>&</sup>lt;sup>2</sup>Frequency of emission at any level of emission

<sup>&</sup>lt;sup>3</sup>Duration of emission at any level of emission

 $<sup>^4</sup>$ Average Emission Factor — Provide estimated ( $\pm$  25 percent) emission factor (kg of emission per kg of production of listed substance)

Stack Parameters -- Identify the stack parameters for each Point Source ID Code identified in question 10.09 by completing the following table. CBI Not Applicable (NA) [-]Stack Emission Inner Point Diameter Exhaust Exit Source Building Vent, Building (at outlet) Temperature Velocity ID Stack (°C) Height(m) Width(m) Type' (m/sec) Code Height(m) (m)NA NA NA. NA NΑ NΑ NA NA NA NA NA NA NA NΑ NA NA NA NANΑ NA NA NΑ NA NΑ NA NΑ NΑ NA <sup>1</sup>Height of attached or adjacent building <sup>2</sup>Width of attached or adjacent building <sup>3</sup>Use the following codes to designate vent type:

H = Horizontal

V = Vertical

<sup>[</sup>\_] Mark (X) this box if you attach a continuation sheet.

10.12 <u>CBI</u>	distribution for each Point Source	d in particulate form, indicate the particle size e ID Code identified in question 10.09. ete it separately for each emission point source.
[_]	Point source ID code	
	Size Range (microns)	Mass Fraction (% ± % precision)
	< 1	NA
	≥ 1 to < 10	NA
	≥ 10 to < 30	NA
٠	≥ 30 to < 50	NA
	≥ 50 to < 100	NA
	≥ 100 to < 500	NA
	≥ 500	NA
		Total = 100%

	·										
10.13	types listed which are exposed according to the specified the component. Do this for residual treatment block floot exposed to the listed sprocess, give an overall peexposed to the listed subst	sed to the leading to	isted suent of the stype is type is in the stype is in this in time per	bstance a e listed dentified ot includ s a batch year tha	nd which substance in your e equipme or inter t the pro	are in se passing process b nt types mittently cess type	rvice through lock or that are operated is				
<u>CBI</u>	for each process type.										
	Process type Not A	oplicable (NA	\)								
	Percentage of time per year that the listed substance is exposed to this process										
	type										
		Number				y Weight I cess Strea					
	Equipment Type	Less than 5%	5-10%	11-25%	26-75%	76-99%	Greater than 99%				
	Pump seals <sup>1</sup>		<del></del>								
	Packed	_NA	_NA_	NA_	NA	NA	_NA				
	Mechanical	NA	NA	NA	NA	NA	NA				
	Double mechanical <sup>2</sup>	NA	NA	NA	NA	NA	NA				
	Compressor seals <sup>1</sup>	NA	NA_	NA	NA	NA	NA.				
	Flanges	<u> </u>	<u>NA</u>	<u>NA</u>	NA_	NA_	_NA				
	Valves				•						
	Gas <sup>3</sup>	<u> </u>	NA_	NA_	NA	NA	NA				
	Liquid	NA	NA_	<u>NA</u>	NA	NA	NA.				
	Pressure relief devices <sup>4</sup> (Gas or vapor only)	NA	NA	NA	NA	NA	NA				
	Sample connections										
	Gas	_NA	NA	NA_	NA	NA	NA				
	Liquid	_NA	_NA_	NA	NA	NA	_NA				
	Open-ended lines <sup>5</sup> (e.g., purge, vent)										
	Gas	<u>NA</u>	<u>NA</u>	<u>NA</u>	<u> NA </u>	<u>NA</u>	_NA				

10.13 continued on next page

_ <sub>1</sub>	Mark (X	) this	hox	if you	attach	2	continuation	chee	<b>.</b> +	
				•		_				

List the number of pump and compressor seals, rather than the number of pumps or compressors

10.13	continued)
-------	------------

10.14 Pressure Relief Devices with Controls -- Complete the following table for those pressure relief devices identified in 10.13 to indicate which pressure relief devices in service are controlled. If a pressure relief device is not controlled, enter "None" under column c.

a. Number of Pressure Relief Devices	b. Percent Chemical in Vessel	c. Control Device	d. Estimated Control Efficiency <sup>2</sup>
Not Applicable (NA)	NA	NA NA	NA
NA	NA	NA	NA
NA	NA	NA	NA
NA NA	NA	NA	NA
NA	NA NA	NA	NA
NA	NA	NA	NA
NA	NA	NA	NA NA
NA	NA	NA	NA
NA	NA	NA	NA

<sup>&</sup>lt;sup>1</sup>Refer to the table in question 10.13 and record the percent range given under the heading entitled "Number of Components in Service by Weight Percent of Listed Substance" (e.g., <5%, 5-10%, 11-25%, etc.)

|--|

<sup>&</sup>lt;sup>2</sup>If double mechanical seals are operated with the barrier (B) fluid at a pressure greater than the pump stuffing box pressure and/or equipped with a sensor (S) that will detect failure of the seal system, the barrier fluid system, or both, indicate with a "B" and/or an "S", respectively

<sup>&</sup>lt;sup>3</sup>Conditions existing in the valve during normal operation

<sup>&</sup>lt;sup>4</sup>Report all pressure relief devices in service, including those equipped with control devices

<sup>&</sup>lt;sup>5</sup>Lines closed during normal operation that would be used during maintenance operations

<sup>&</sup>lt;sup>2</sup>The EPA assigns a control efficiency of 100 percent for equipment leaks controlled with rupture discs under normal operating conditions. The EPA assigns a control efficiency of 98 percent for emissions routed to a flare under normal operating conditions

Process type		• • • • • • • • • • • • • • • • • • • •	Not Appli	cable (NA)	
Equipment Type	Leak Detection Concentration (ppm or mg/m³) Measured at Inches from Source	Detection Device	of Leak Detection	Initiated (days after	Repairs Complete (days aft initiated
Pump seals					
Packed	NA	NA	NA	NA	NA
Mechanical				NA NA	NA
Double mechanical	NA	NA	NA	NA NA	NA
Compressor seals	NA	NA	NA	NA	NA
Flanges	NA	NA_	NA	NA	NA
Valves					
Gas	NA	NA	NA_	NA	NA
Liquid	NA	NA	NA	NA	NA
Pressure relief devices (gas or vapor only)	NA	NA	NA	NA	NA
Sample connections					
Gas	NA	NA	NA	NA	NA
Liquid	NA	NA	NA	NA	NA NA
Open-ended lines					
Gas	NA	NA	NA	NA	NA
Liquid	NA	NA			NA
	Pump seals Packed Mechanical Double mechanical Compressor seals Flanges Valves Gas Liquid Pressure relief devices (gas or vapor only) Sample connections Gas Liquid Open-ended lines Gas	Concentration (ppm or mg/m³) Measured at Inches From Source  Pump seals Packed NA Mechanical NA Double mechanical NA Compressor seals NA Flanges NA Valves Gas NA Liquid NA Pressure relief devices (gas or vapor only) NA Sample connections Gas NA Liquid NA Open-ended lines Gas NA	Concentration (ppm or mg/m³) Measured at Inches Inches Period Source  Pump seals  Packed NA Mechanical Double mechanical NA Compressor seals NA NA Flanges NA NA NA Valves Gas NA Liquid NA	Concentration (ppm or mg/m³)   Measured at	Concentration (ppm or mg/m³) Measured at Inches of Leak Initiated (days after from Source Device (per year) detection)  Pump seals  Packed NA

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10.16 CBI	liquid	raw mater	itermediate a rial, interme itment block	diate, and p	roduct s	missions - torage ves	- Completesel contact	te the fining th	followir ne liste	ng table by ed substanc	y provid ce as id	ling the in Nentified	nformation o in your prod	on each cess block
<del>-</del>					<b>\-</b> /				Operat-	-				
[_]					Vessel	Vessel	Vessel		ing					
		Floating	Composition	Throughput	Filling	Filling	Inner	Vessel	Vessel	Vessel	Design		Control	Basis
	Vessel	Roof	of Stored	(liters	Rate	Duration	Diameter	Height		<b>Emission</b>	Flow	Diameter	Efficiency	for
	Type <sup>*</sup>	Seals*	Materials'	per year)	(gpm)	<u>(min)</u>	(m)	(m)	(1)	Controls'	Rate	(cm)	(%)	Estimate <sup>6</sup>
		pplicabl											_	
	<u>NA</u>	<u>NA</u>	<u>NA</u>	NA	<u>NA</u>	<u>NA</u>	<u>NA</u>	<u>NA</u>	<u>NA</u>	<u>NA</u>	NA_	_NA	_NA	NA
	NA	NA_	NA	NA	NA_	NA_	NA_	NA_	NA	NA	NA_	NA	NA	NA
	NA	<u>NA</u>	NA	NA	NA_	NA_	NA	NA_	NA	NA	<u>NA</u>	NA	NA .	NA
	NA	NA_	NA	NA	NA_	NA_	NA_	<u>NA</u>	NA	NA	NA	NA	_NA	<u>NA</u>
	NA	NA_	NA	NA	NA	NA_	NA	NA_	NA	<u>NA</u>	NA	NA_	NA	NA
	NA	NA_	NA	NA	NA	NA	NA_	NA_	NA_	NA_	NA	NA_	NA	NA
	NA	<u>NA</u>	NA_	NA	NA	NA_	NA	NA_	NA_	NA	<u>NA</u>	NA_	NA	NA

<sup>1</sup>Use the following codes to designate vessel type:

F = Fixed roof

CIF = Contact internal floating roof NCIF = Noncontact internal floating roof

EFR = External floating roof

P = Pressure vessel (indicate pressure rating)

H = Horizontal

J = Underground

<sup>2</sup>Use the following codes to designate floating roof seals:

MS1 = Mechanical shoe, primary

MS2 = Shoe-mounted secondary

MS2R = Rim-mounted, secondary

LM1 = Liquid-mounted resilient filled seal, primary

LM2 = Rim-mounted shield

LMW = Weather shield

VM1 = Vapor mounted resilient filled seal, primary

VM2 = Rim-mounted secondary

VMW = Weather shield

<sup>&</sup>lt;sup>3</sup>Indicate weight percent of the listed substance. Include the total volatile organic content in parenthesis

<sup>40</sup>ther than floating roofs

<sup>&</sup>lt;sup>5</sup>Gas/vapor flow rate the emission control device was designed to handle (specify flow rate units)

<sup>&</sup>lt;sup>6</sup>Use the following codes to designate basis for estimate of control efficiency:

C = Calculations

S = Sampling

PART E	NON-ROUTINE	RELEASE	5						
								_	

10.23 Indicate the date and time when the release occurred and when the release ceased or was stopped. If there were more than six releases, attach a continuation sheet and list all releases.

Release	Date Started	Time (am/pm)	Date Stopped	Time (am/pm)
1	Not Applicable (NA)	NA	NA	<u>NA</u>
2	<u>NA</u>	NA NA	NA	<u>NA</u>
3	NA	NA	<u>NA</u>	NA
4	<u>NA</u>	NA	<u>NA</u>	<u>NA</u>
5	<u>NA</u>	NA	NA	NA
6	NA	NA	NA	<u>NA</u>

Specify the weather conditions at the time of each release.

NA - Not required to respond to this question.

Release	Wind Speed (km/hr)	Wind Direction	Humidity(%)	Temperature (°C)	Precipitation (Y/N)
					-44.65 W
2					
3					
4				•	
5					
6	,				

[_]	Mark (X)	this	box if yo	ou attach	a	continuation sheet.	

APPENDIX	T:	Liet	٥f	Continuati	ion Sheet	

Attach continuation sheets for sections of this form and optional information after this page. In column 1, clearly identify the continuation sheet by listing the question number to which it relates. In column 2, enter the inclusive page numbers of the continuation sheet for each question number.

	Question Number(1)	_	Continuation Sheet Page Numbers (2)
	1.09	_	6
	1.06	_	4
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] Mark (X) t	is box if you attach a continuation sh	eet.	

PART	B CORPORATE DATA
1.09	Facility Identification
<u>CBI</u>	Name [0] L   M   0   R   C   E   N   _   C   0   R   P   0   R   A   T   T   0   N   _   _   _   _   _   _   _   _   _
	[_ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _
	[_]_] [_]_][_]_]_]_ State [_]_]_][_]_]_]
	Dun & Bradstreet Number
	Primary Standard Industrial Classification (SIC) Code
	Other SIC Code
	Other SIC Code[_]_]_]_]
1.10	Company Headquarters Identification
<u>CBI</u>	Name [ ] ] ] ] ] ] ] ] ] ] ] ] ] ] ] ] ] ]
	(_)
	(]]
	Dun & Bradstreet Number
	Employer ID Number
[_]	Mark (X) this box if you attach a continuation sheet.

1.03 <u>CBI</u> [_]	Does the substance you are reporting on have an " $x/p$ " designation associated with it in the above-listed <u>Federal</u> <u>Register</u> Notice?
	Yes [_] Go to question 1.04
	No
1.04 <u>CBI</u> [_]	a. Do you manufacture, import, or process the listed substance and distribute it under a trade name(s) different than that listed in the Federal Register Notice? Circle the appropriate response.  Yes
	No 2
	b. Check the appropriate box below:
	[_] You have chosen to notify your customers of their reporting obligations
	Provide the trade name(s)
	[] You have chosen to report for your customers
	You have submitted the trade name(s) to EPA one day after the effective date of the rule in the <u>Federal Register</u> Notice under which you are reporting.
1.05 CBI	If you buy a trade name product and are reporting because you were notified of your reporting requirements by your trade name supplier, provide that trade name.
	Trade name
	Is the trade name product a mixture? Circle the appropriate response.
	Yes 1
	No 2
1.06 CBI [_]	Certification The person who is responsible for the completion of this form must sign the certification statement below:
	"I hereby certify that, to the best of my knowledge and belief, all information entered on this form is complete and accurate."
	Clyde E. Lance, Jr.  NAME  Clyde E. Lance, Jr.  SIGNATURE  DATE SIGNED
	Materials and Process Engineer ( 703 ) 639 - 9045 TITLE TELEPHONE NO.
[ <u>]</u> ] M	ark (X) this box if you attach a continuation sheet.